DOCUMENTS

5/S

ACD 9363
SAN FRANCISCO PUBLIC LIBRARY
3 1223 90187 4181
ACD 9364
SAN FRANCISCO PUBLIC LIBRARY
3 1223 90187 4934

GOVERNMENT INFORMATION CENTER
SAN FRANCISCO PUBLIC LIBRARY

CLOSED
STACKS

Digitized by the Internet Archive
in 2016

https://archive.org/details/annualreportsanf1949sanf

DOCUMENTS DEPT.
SAN FRANCISCO
PUBLIC LIBRARY
APR 30 1951

ANNUAL REPORT —— FISCAL YEAR 1949-1950

SAN FRANCISCO

PUBLIC UTILITIES COMMISSION

HETCH HETCHY WATER SUPPLY,
POWER AND UTILITIES
ENGINEERING BUREAU

•

WATER DEPARTMENT

BUREAU OF LIGHT, HEAT
AND POWER

•

SAN FRANCISCO AIRPORT

•

MUNICIPAL RAILWAY

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

Honorable Elmer E. Robinson
Mayor of City and County of San Francisco
City Hall,
San Francisco, Calif.

My Dear Mayor:

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual report covering activities and operations for the period beginning July 1, 1949 and ending June 30, 1950.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management, maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway; the San Francisco Water Department; Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco Airport Department, and the Bureau of Light, Heat and Power. In addition there are three service bureaus comprising the Bureau of Accounts, Bureau of Safety and Personnel, and the Bureau of Public Service.

Detailed accounts of the activities and operations of these several departments will be found in the succeeding sections of this report.

In April, 1950, Mr. George M. Dixon was appointed Manager and Chief Engineer of the San Francisco Airport, replacing B. M. Doolin.

The Commission held 52 regular meetings and one special meeting during the year, in the course of which 23 public hearings were conducted. It awarded 78 contracts for work costing $13,703,302.57 and approved 191 contract payments in the amount of $9,392,206.26.

The Commission adopted a budget for the year 1950-51 in the amount of $45,418,901.00 and a supplemental budget in amont of $121,941.00.

Respectfully submitted,

Philip F. Landis

PHILIP F. LANDIS
President
Public Utilities Commission

The Public Utilities Commission is appointed by the mayor for a term of four years. The terms of the members are staggered. There are five members of the commission which elects its own president and vice president.

ELMER E. ROBINSON
Mayor

SAM McKEE
Commission Vice President

PHILIP F. LANDIS
Commission President

VICTOR S. SWANSON
Commissioner

EDWARD B. BARRON
Commissioner

DONALD A. CAMERON
Commissioner

The Manager of Utilities is appointed by the Public Utilities Commission and serves at its pleasure. He is the executive officer of the Commission. Utility department heads are appointed by the Manager of Utilities with the approval of the Commission.

JAMES H. TURNER
Manager of Utilities

GEORGE PRACY
Manager, Water Department

WILLIAM H. SCOTT
Manager, Municipal Railway

A. O. OLSON
Manager, Hetch Hetchy

B. A. DEVINE
Manager, Light, Heat & Power

GEORGE DIXON
Manager, Airport

BEFORE

Hetch Hetchy Valley before O'Shaughnessy Dam was built to create Hetch Hetchy Reservoir.

AFTER

Hetch Hetchy Valley as it appears today. There are 117 billion gallons in this reservoir when it is full.

HISTORY OF HETCH HETCHY

In 1900 a clause was inserted in the San Francisco Charter which stated that "its public utilities shall be gradually acquired and ultimately owned by the City and County."

Impelled by this mandate to take steps toward the acquisition of a municipal water supply, the Board of Supervisors ordered a survey of possible sources which resulted in the recommendation that the City try to acquire the Tuolumne River watershed as a supply. In 1901, under the leadership of Mayor James Phelan, permission was sought to build dams and reservoirs at Lake Eleanor and Hetch Hetchy, both of which are in Yosemite National Park, under the jurisdiction of the Department of Interior.

Years were spent in vain attempts by the City to get the clear cut rights necessary, but successive administrations seemed to have different ideas from their predecessors. Finally, the City went to Congress itself for the necessary rights, and, in 1913, the Raker Act was passed and signed by President Woodrow Wilson. This gave San Francisco what it wanted.

Interrupted only by World War I, the City then built the beginnings of the still incomplete Hetch Hetchy project. Lake Eleanor Dam was finished in 1918, and O'Shaughnessy Dam in 1923. Later it was raised to its present height in 1938. All the pipelines and the tunnels that were needed immediately, including the 25-mile-long Coast Range tunnel, were built. At last, in 1934, the first water from the Sierra mountains flowed to San Francisco.

FUNCTION AND PURPOSE

The long name—Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau—is a simple way to describe all the functions of this branch of the Public Utilities Commission. The "Hetch Hetchy," incidentally, is a corruption of an Indian name, "Hatchatchie," identifying the long grass which formerly grew in the valley now used as the system's principal impounding reservoir.

In the first capacity, the bureau has full charge of the Hetch Hetchy Water Supply and Electric Power system, being responsible for the administration, engineering, construction work and operation and maintenance of the system. In the second, it performs engineering work for the Airport Department and the Municipal Railway, planning and supervising all new construction for those utilities and providing engineering service also in connection with maintenance and reconstruction of existing facilities.

The water supply function is, quite simply, that of wholesaler of water to the San Francisco Water Department. It collects and delivers the major share of the water distributed by the Water Department, which pays Hetch Hetchy for this service.

The power division sells the power generated to the various other municipal departments and miscellaneous customers.

Revenues from water and power sales, as well as from other City departments for engineering work performed, have made this bureau self-supporting since its creation in 1932.

HETCH HETCHY WATER SUPPLY

Production:

Although rainfall and stream flow in the various water-sheds of the Hetch Hetchy system were again below normal during the fiscal year, conditions were improved over last year.

At year's end the volume of stored water available to the San Francisco Water Department was over four times the annual requirements for the total system.

The final report of the California Cooperative Snow Survey indicates that the 1950 runoff (melting snow) will be about 90% of normal on the Tuolumne River watershed, in which, of course, the Hetch Hetchy system is situated. This department, incidentally, contributes to the California snow report by sending its own men on a regular "run" through the watershed when the snow is deepest. The snow is then measured and the amount of water it will yield during the runoff period estimated. In the past, these estimates have been surprisingly accurate.

Despite the below normal flow of the river for an entire year, the Lake Eleanor and the Hetch Hetchy Reservoirs filled and spilled because of heavy precipitation from January through April, 1950. For example, precipitation at Hetch Hetchy Reservoir totaled 30.03 inches for the entire year, but 22.5 inches of that came during the January-April period. Average precipitation for a year is 33.17 inches in this area.

Construction:

Thirty-three miles of the new San Joaquin Valley Pipeline Number 2 were finished during the year and on June 9, 1950, this part of the pipeline was put into service. By September of 1951, the entire job, stretching 47 miles across San Joaquin Valley, will be complete. Pipeline No. 2 parallels No. 1 on the Hetch Hetchy right of way across the valley.

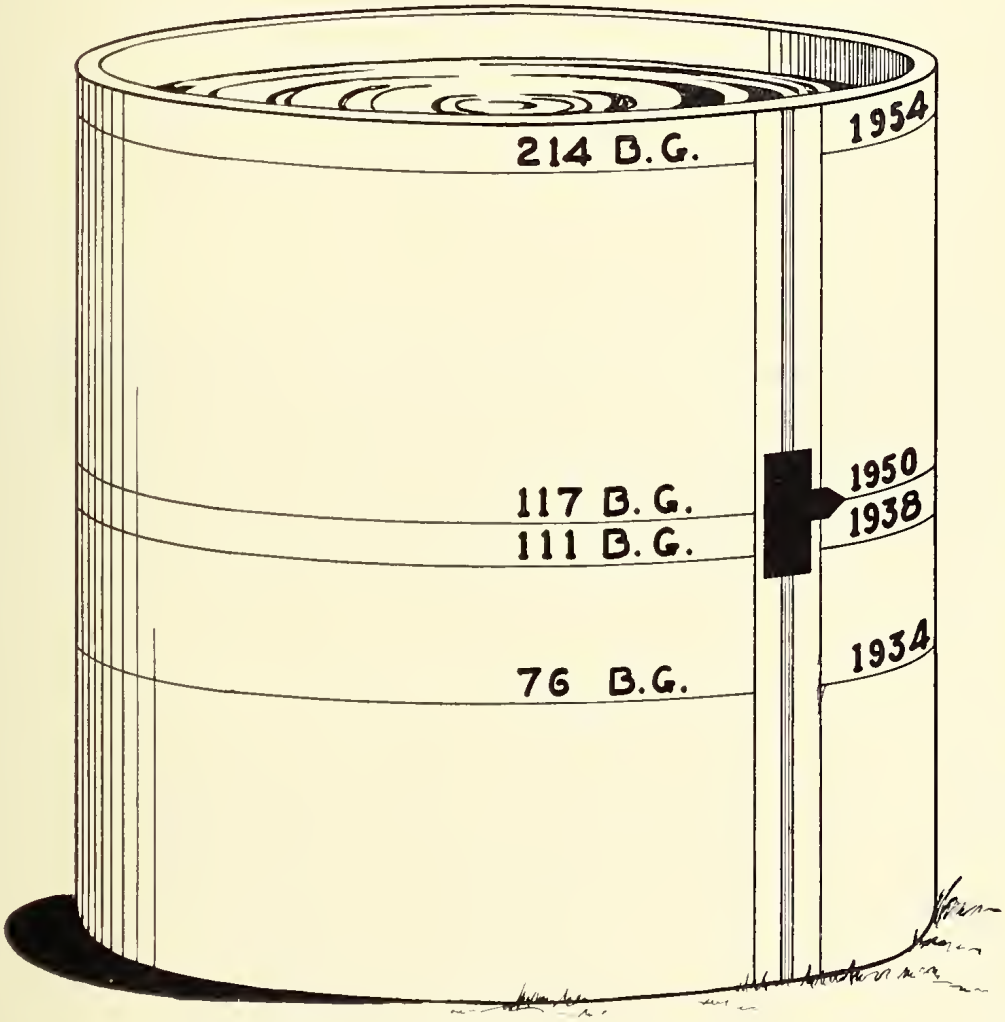
Opening of the first 33 miles of No. 2 brought transmission capacity across the valley up to 92 million gallons per day, compared to the 60 million gallons per day which was delivered by No. 1 alone. When No. 2 is complete, the total capacity of both lines will then be 140 million gallons per day. This will eliminate, for awhile anyway, the bottleneck in the Hetch Hetchy Aqueduct which existed when there was only San Joaquin Valley Pipeline No. 1.

Steel, drum-type gates were installed in the spillway of O'Shaughnessy Dam which increased the capacity of the reservoir from 111 billion gallons to 117 billion gallons. Of ingenious design, these drum gates, floated into place by the rising water, raise the lip of the spillway ten feet.

Its job long since done, the old Hetch Hetchy Railway, which was used extensively during early construction days on the project, was sold during the fiscal year for $147,500. This was a negotiated sale after the Public Utilities Commission rejected an earlier formal bid of $45,683.16. The railway grade will be converted into a roadway for easier access to more remote sections of Hetch Hetchy project.

TOTAL RESERVOIR CAPACITY
HETCH HETCHY SYSTEM
1934 TO 1954

IN BILLIONS OF GALLONS (B.G.)



FIRST WATER DELIVERED FROM
O'SHAUGHNESSY DAM-------1934
O'SHAUGHNESSY DAM RAISED---1938
DRUM GATES INSTALLED ON
O'SHAUGHNESSY DAM--------1950
CHERRY DAM TO BE COMPLETED--1954

Cherry River Project:

In November of 1949 the electorate of San Francisco voted $4,000,000 for Cherry River bonds. This money, along with $9,000,000 from federal funds, will be used to build Cherry Valley Dam, the next logical step in the development of the Hetch Hetchy project. Federal funds will be available because the dam will provide flood control on the Tuolumne river watershed, a federal obligation.

In truth, Cherry Valley dam is to be a sort of joint venture by the City, the U. S. Government and the Modesto and Turlock Irrigation Districts. All these parties have interests which will be served by the dam. Consequently, a contract enumerating each party's responsibilities was executed August 29, 1949.

San Francisco's principal interest is water storage. That will be accomplished by the new reservoir created by the dam. This reservoir will have a capacity of 86 billion gallons of water, or three-fourths as much as the existing Hetch Hetchy reservoir holds. The new dam will be on the Cherry river about 17 miles northwest of Hetch Hetchy reservoir.

Field work was being done during the fiscal year, and, international circumstances permitting, construction of the dam itself will start in 1951.

RAISE LEVEL

Drum gates installed at spillway of O'Shaughnessy Dam raised level of reservoir and increased capacity by 20,000 acre feet.

HETCH HETCHY POWER

San Francisco is engaged in the business of generating electric energy, a fact which apparently is but little known by a large section of the citizen-owners of this power system.

The City, of course, is not attempting to compete with private industry in the power business, but only takes advantage of the falling water in the Hetch Hetchy system to generate power for the City's own needs. Unfortunately, it is not possible to generate exactly the right amount needed for City use, so the supply is sometimes short of and sometimes more than the need.

The problem of where San Francisco can dispose of its excess power was the subject of litigation between the City and the Department of Interior for many years. The Department of Interior controls the principal impounding reservoir sites for the Hetch Hetchy system because they are in Yosemite National Park.

In 1945, however, an agreement was worked out to the satisfaction of both parties and there have been no major problems since. At present the City sells power to Municipal departments (railway, street lighting, etc.), Modesto Irrigation District, Kaiser Aluminum and Chemical Corporation, Permanente Cement Company, and miscellaneous customers.

In the fiscal year, the system produced 530,656,300 kilowatt hours, another 5,923,360 were purchased from the PG&E, making a total available for the year of 536,579,660 kilowatt hours.

The City's principal power plant is at Moccasin Creek on the Hetch Hetchy system. The water falls a vertical distance of 1,316 feet through penstocks (large pipes) nozzling onto the water wheels of the four generators which convert the force of the falling water into electric energy.

HETCH HETCHY ENGINEERING

Airport:

At the close of the fiscal year the greater part of the basic runway and taxiway pattern for the expansion of the San Francisco Airport, as provided for in the 1945 Airport Bond Construction program, had been completed and the remainder was under construction or nearing completion.

The pattern is in the form of two sets of dual runways. One set is directed into the prevailing wind at the field, while the other serves during storm wind conditions.

In addition to the $2,737,178.02 of bond funds spent during the year, federal grants aggregating $1,225,351.88 were accepted during the year to assist in financing airport improvements. This, added to the $2,352,606.00 received last fiscal year, makes total federal contributions at the end of the year of $3,577,957.88. Federal money is put up only as the work for which it is to be spent is actually done, so it would be impossible to obtain federal airport aid without spending City money too. Of course, federal funds received for a job completed, are then used to accomplish another job.

The City is paying for the cost of the site, electric conduits and power supply for a surveillance radar system being installed at the airport by the federal government. This system, combined with the Instrument Landing System already on the field, will increase efficiency of flying operations during inclement weather conditions.

Municipal Railway:

Engineering required under the program for the rehabilitation of the Municipal Railway continued at a steady pace during the year, with particular emphasis upon structures and installation of overhead for trolley coaches.

At Mariposa and Hampshire Streets, the Potrero Carhouse was remodeled into a modern and efficient shop and operating quarters for trolley coaches, as was a portion of the Geary Carhouse at Presidio Avenue and Post Street. These two buildings, with the yards adjoining, are ample for the storage and operation of all trolley coaches. The location of each storage facility determines what lines are assigned there.

A new motor coach center was nearing completion at the end of the fiscal year. Known as Kirkland Yard, it is bounded by Stockton, Beach, North Point and Powell Streets.

Overhead wiring for trolley coaches on the Nos. 5, 6, 7, 8, 9 and 21 was installed and trolley coach service inagurated on these lines. Work was in progress for the conversion of the Sutter and Stockton lines to trolley coach operation.

After sixty-three years of service the cable car turntable at Powell and Market Streets was replaced with a new one which was put into use May 14, 1950. The two weeks required for this job was the only time since the 1906 Fire that service on the Powell cable line has been interrupted for other than short, emergency repairs.

DOWN AND UNDER

San Joaquin Valley Pipeline No. 2 had to dip under the San Joaquin River. Here pipe is being laid under the river.

LAND, TAX AND APPRAISAL DIVISION

This section of the Hetch Hetchy Engineering staff is kept busy with land purchases, sales and exchanges, and all the descriptions and other documents needed for these transactions.

It also keeps tab on the complicated tax questions involved in the payment of taxes by the Hetch Hetchy system, the Railway and the Airport to other political subdivisions. For example, Hetch Hetchy paid taxes on its lands to twelve different taxing bodies during the year in amounts totaling $18,885. The Municipal Railway paid taxes to four political bodies, totaling $5,871. The Airport has to pay taxes to five different cities, counties or districts. This bill amounted to $76,298, most of it going to San Mateo County.

Appraisals prominent in the news were those made of the California Street Cable Railroad, and the Hetch Hetchy Railroad. In the first instance, the appraisal is still being used as a basic figure in negotiations by the Public Utilities Commission for the purchase of the cable railway. The department appraisal of the Hetch Hetchy Railroad resulted in cancellation of all bids. Later, on a negotiated sale, an additional hundred thousand dollars was realized from the transaction.

The division also represents the department on the problem of joint use of poles on the streets.

Miscellaneous Facts About Hetch Hetchy System

- When all the dams, pipelines and tunnels are built—several generations from now—the Hetch Hetchy system will be able to deliver 400 million gallons of water each day to San Francisco. That'd be enough for four million people.

- In order to keep direct control over its far reaching operations in the mountains, the Hetch Hetchy headquarters at Moccasin Creek will soon have a radio-telephone communication system linking all its various facilities and the vehicles of supervisory personnel.

- The water from the protected, granite watersheds of the Hetch Hetchy system is so "pure" that it corrodes the first steel or iron it comes in contact with. This is hard on pipelines, so lime will be added soon to make the water less "aggressive." Not enough to spoil the taste, though.

- Since it first delivered water to the San Francisco Water Department in 1934, the Hetch Hetchy supply has delivered a total of 213,642,000,000 gallons.

- Automatic devices, to be installed in headquarters for San Joaquin Pipelines, will reflect any deviation from normal flow in the entire 47-mile length of the pipelines. If there should be a break, the boss would know immediately.

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES
ENGINEERING BUREAU
FISCAL YEAR 1949-1950

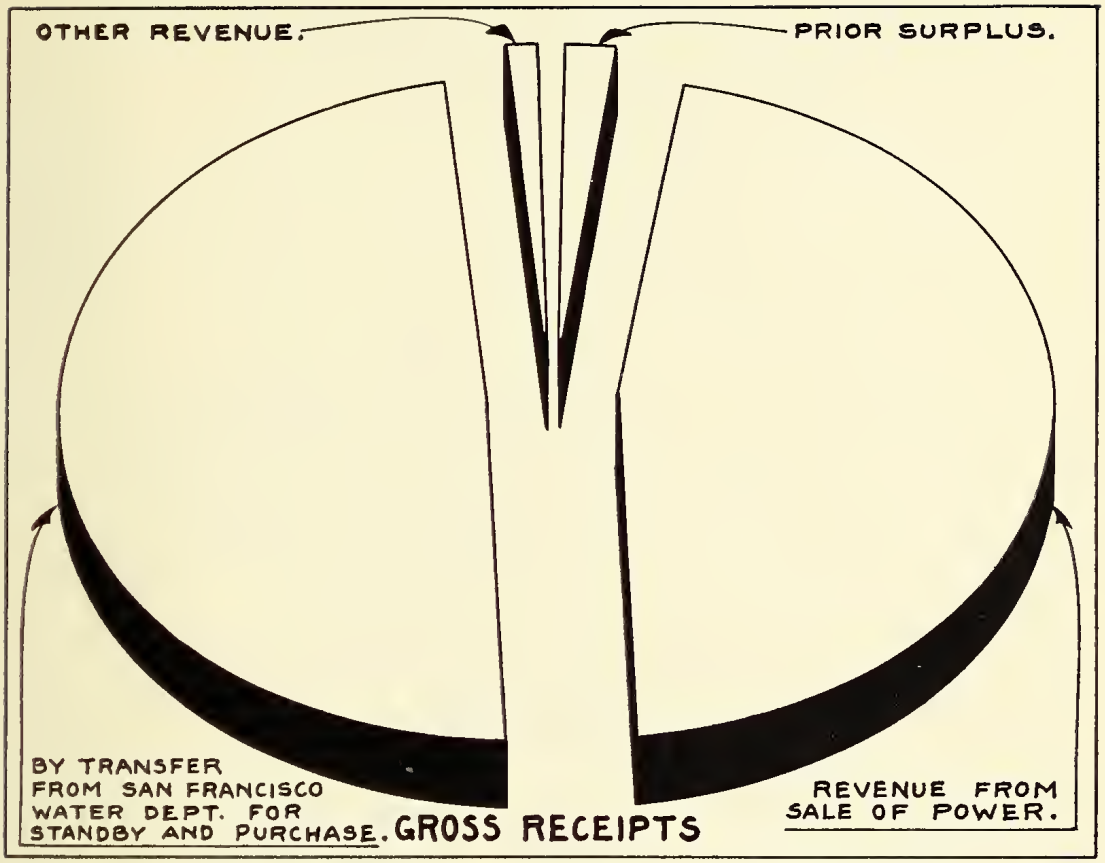
What We Received:

By Transfer from S. F. Water Dept. for Standby and Purchase	$3,624,841
Revenue from Sale of Power	3,322,440
Other Revenue	28,960
Prior Year's Surplus	277,139
	$7,253,380

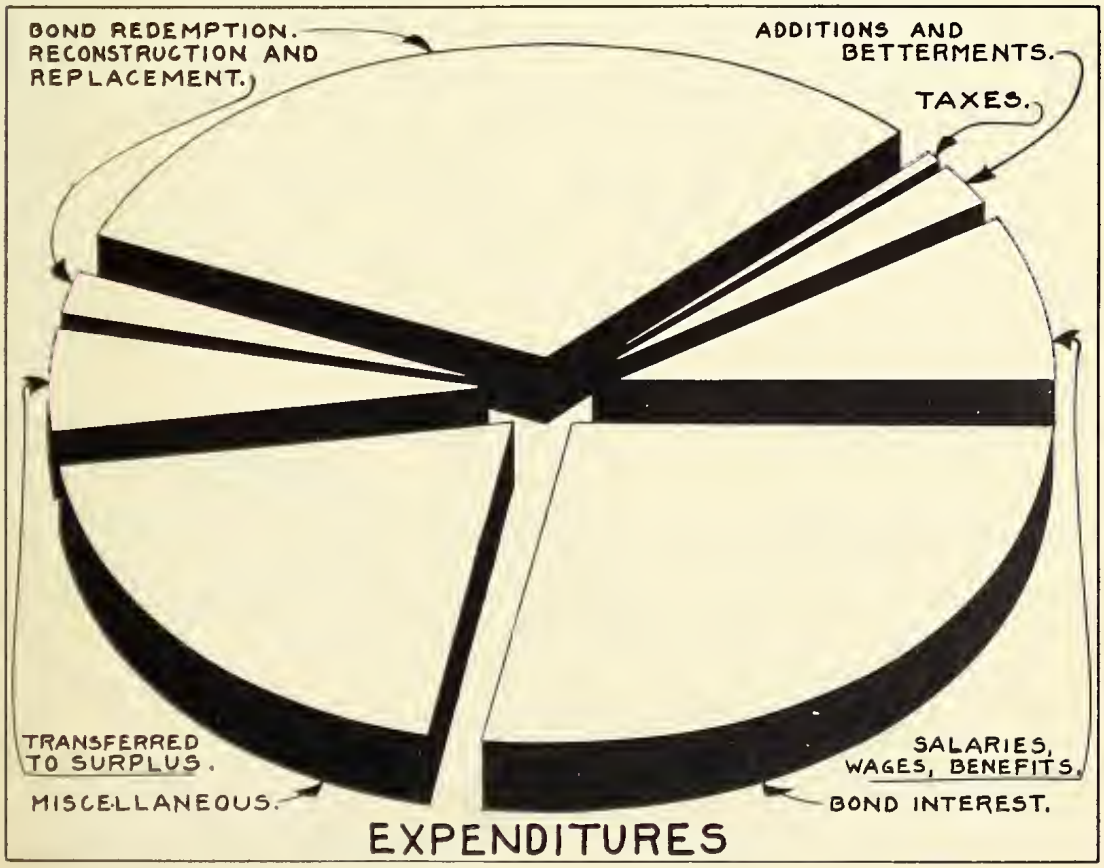
Where Money Went:

Salaries and Wages Including Retirement, Sickness and Industrial Compensation Benefits	$ 472,342
*Miscellaneous	1,372,211
Taxes	18,469
Bond Interest	2,122,770
Bond Redemption	2,714,355
New Construction	152,832
Reconstruction and Replacement	116,137
Unappropriated Revenue Transferred to Surplus	284,264
	$7,253,380

*Contractual Services	$ 348,426
Materials and Supplies	15,430
Water Rights and Damage Claims	16,108
Fee to U. S. Government	30,000
Purchase of Power for Resale, Service Charge and Rental of Transmission Line	961,642
Insurance	605
	$1,372,211



GROSS RECEIPTS



EXPENDITURES

NO WATCH FOB

This gag shot of the cow and the pretty Miss was designed to show the real size of the 72-inch diameter pipe being used in Bay Division Pipeline No. 3 which will bring water from the east to the west side of the bay by a route around the south end of the bay.

BRIEF HISTORY OF WATER DEPARTMENT

March 3, 1950, marked the twentieth anniversary of the municipally owned San Francisco Water Department. It was on that day in 1930 that the City took over the private Spring Valley Water Company which had served San Francisco as its major water works since 1865.

The purchase of the private company by the City for $41,000,000 culminated many years of effort on the part of citizens to buy out the company with which many people were dissatisfied.

In the early Gold Rush days San Francisco had obtained its water from wells, small local streams, by barge from Sausalito and, when population continued to outstrip the supply, the Spring Valley Company branched out for new sources in San Mateo County. Later this company developed sources in the East Bay. All of these sources, with the necessary reservoirs and transmission lines, of course became part of the San Francisco Water Department in 1930. Then, in 1934, the Department's supply was substantially increased by the addition of Hetch Hetchy water which, today, provides over 60% of the total supply.

Since its beginning, the Water Department has been completely self-sustaining, requiring no tax support. In twenty years, while everything else has gone up in cost, the Department has reduced residential rates until they are now ten per cent lower than they were under those of the Spring Valley Water Company.

PRODUCTION AND TRANSMISSION

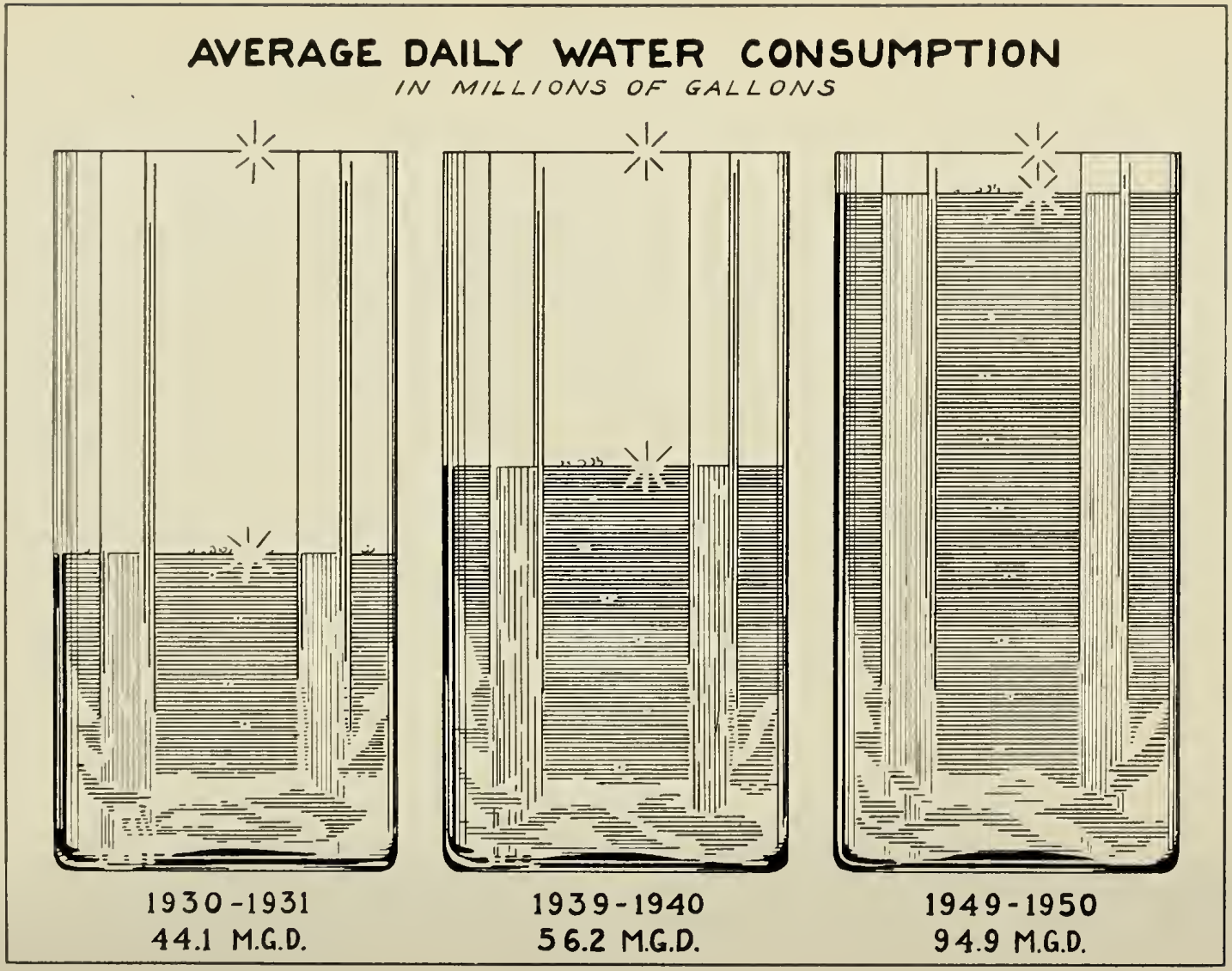
Rainfall during the fiscal year was above the previous year both on the peninsula and in the East Bay, these being the water producing areas under the jurisdiction of the Water Department. Of course, most of the water supply comes from the Hetch Hetchy mountain system which is a separate department under the Public Utilities Commission (see Hetch Hetchy section).

Unfortunately, however, the rainfall was still below what is considered normal. In the watersheds of the different reservoirs the rainfall was as follows:

	1949-50	1948-49	Increase	Normal
Crystal Springs	24.36 in.	21.90 in.	2.46 in.	27.5 in.
San Andres	27.79	26.43	1.36	37.43
Pilarcitos	39.38	35.33	4.05	45.24
Calaveras (East Bay)	17.01	13.64	6.98	23.99

It was necessary to operate the Pleasanton wells all during the year in order to supply parts of the East Bay area because of the low water table in the Pleasanton Valley. Because it taps Alameda Creek for water, the department is obliged to serve those consumers who depend upon that water which, if not diverted, would flow down into the subterranean supply under the valley and feed many wells.

Generally, the transmission mains on both sides of the bay held up well, with comparatively few breaks. A twenty-foot section of 30″ pipe on San Andres #1 required replacement, and an air valve broke on San Andres #3 causing a washout on Alemany Boulevard. There were many jobs of minor replacement and general maintenance.


AVERAGE DAILY WATER CONSUMPTION
IN MILLIONS OF GALLONS
1930-1931
44.1 M.G.D.
1939-1940
56.2 M.G.D.
1949-1950
94.9 M.G.D.

WATER CONSUMPTION

Based upon water sales, the average daily water consumption of the Water Department, including suburban consumption, is down slightly from the previous fiscal year. In 1949-50, the average daily consumption was 94.9 million gallons per day, while it averaged 95.8 million gallons per day in 1948-49. This decrease is attributable to a decrease in industrial water use and to the inauguration of bi-monthly billing which, during the first fiscal year of its operation, automatically put the department behind one month in billing half of the accounts. This is not a loss of revenue, but simply a lag.

Gross water sales for the year totaled $10,774,944, as compared to $10,932,354 in 1948-49. This difference of $157,410 would have been more than offset if monthly billing were still in effect.

Bi-monthly billing, incidentally, was put into operation during the fiscal year with a minimum of trouble both to the Department and to the public, with many consumers commending the Department for this step. Financially, it has proven very successful, saving about $80,000, annually in billing costs.

New services indicated that, for the second consecutive year, the South of Market-Twin Peaks area topped the districts in building activity with 1,594 orders. Sunset-Parkside, formerly the leader, was second with 650 new services. There were 2,605 all told.

CITY DISTRIBUTION

There were no particularly hot spells during the fiscal year, and while some "poor pressure" complaints were received they did not reach the critical stage.

The problem of financing the completion of Sutro Reservoir, located on Clarendon Avenue a quarter mile east of Laguna Honda Boulevard, became of vital importance because of the necessity of supplementing the supply at the upper levels of the Sunset District. Presently this area is served by Stanford Heights Reservoir which is filled by pumping from other sources. It was necessary to operate these pumps at full capacity almost all the time in order to meet the demand on the reservoir. Several consecutive hot days would have resulted in water being used faster than it could be pumped into the reservoir. The same thing would have happened if one of the two pumps serving the reservoir had broken down.

The completion of the Sutro Reservoir will increase the reservoir supply for the area and preclude a shortage of water. Of almost equal importance, it will, because of its strategic elevation, equalize widely varying water pressures in this district by raising pressure of some services and lowering others.

At fiscal year's end, steps were being taken to finance this project.

Otherwise, the operations of the city distribution system were more normal, although the Wilde Avenue sector got a much needed pressure boost with the laying of some new 12 inch mains.

Normal pipe installations brought the total pipe of all kinds in the ground to 1,047.119 miles. During the year 2.657 miles of pipe were laid.

CONSTRUCTION

As the fiscal year ended, the big job of laying Bay Division Pipeline Number 3 was progressing satisfactorily and should be finished at the scheduled completion time of September 1, 1951. The job involves the laying of 34 miles of 72-inch diameter transmission pipeline around the southern end of San Francisco Bay. When completed the new line will carry approximately 76 million gallons of water per day, boosting the overall delivery capacity from the east to the west side of the bay to about 190 million gallons each day.

The new line will circumvent the bay in order to diminish the chance of the city being completely cut off from the major water sources should a submarine disturbance break or disrupt service of existing Bay Division Pipelines Numbers 1 and 2, which cross the bay at Dumbarton Straits.

The job was let in three sections, with two sections—Sections A and C—going to United Concrete Pipe Corporation and Section B going to Artukovich Brothers and Steve Rados. United Concrete bid $4,246,464 for A and C, a distance of 17 miles. Artukovich Brothers and Steve Rados bid $4,097,546 for Section B, which by itself is 17 miles long.

On June 30, 1950 no field work had been started on Sections A and C, while Section B was 47% complete. This progress is according to schedule.

Money for this work was obtained from the $25,000,000 bond issue approved by the electorate in 1947. Half was allocated to the Water Department for this job, the other half to Hetch Hetchy for San Joaquin Valley Pipeline Number 2. (See Hetch Hetchy section.)

WATER PURIFICATION

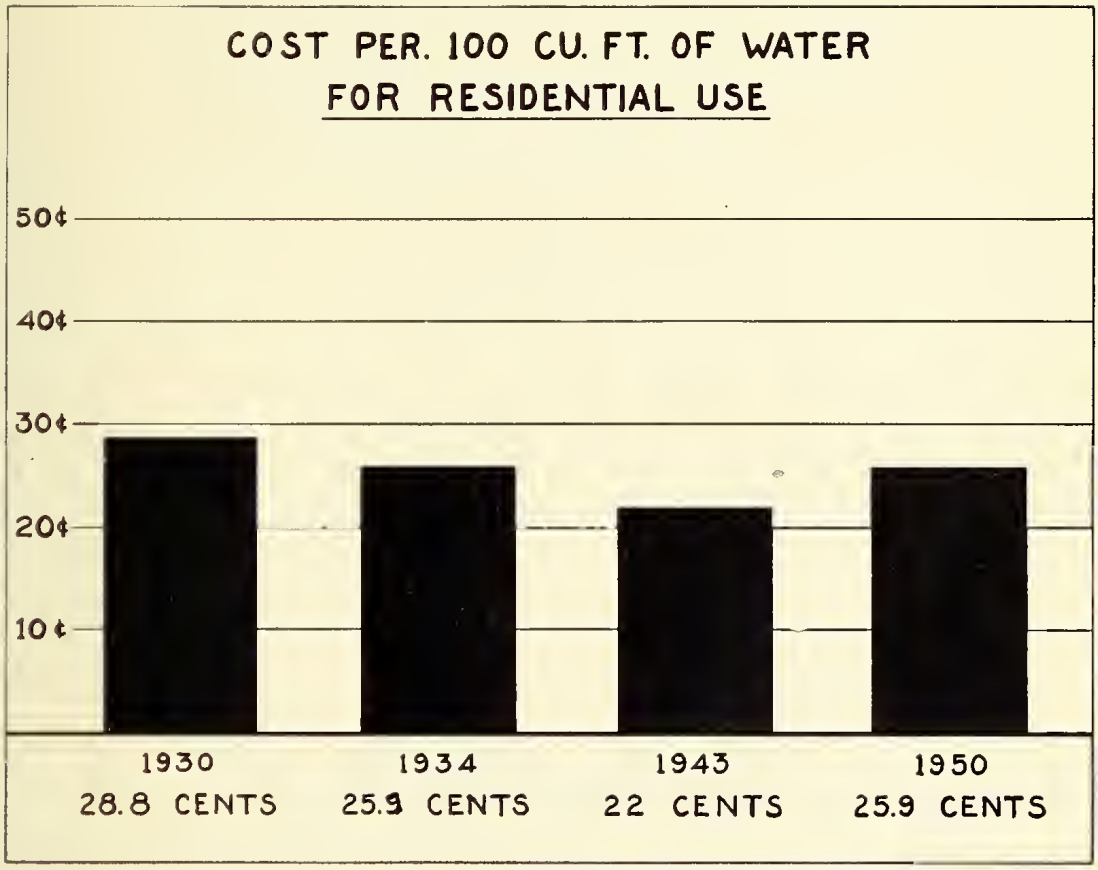
In its year-round, never-stopping system of check and double check, the purification division last year used some 45 tons of chlorine in disinfecting the San Francisco water supply and maintaining the high standard for purity which has long been the reputation of the Water Department. Not satisfied with merely meeting the bacteriological requirements of the U. S. Public Health Service for drinking water, the San Francisco supply is always above those minimum requirements.

The chlorine treatments average 4.85 pounds per million gallons of water, which was enough to do the job but not enough to affect the taste of the water. No water which was not disinfected was served the public, and some 6,528 bacteriological examinations were made by the department at different points on the system to guarantee the effectiveness of the chlorination.

Algae growth was lower than usual, requiring the use of only thirty-six tons of copper sulphate to keep these minute plants under control.

There were sixty complaints during the year on the quality of the water, most of which concerned "dirty water" caused by harmless solid particles which are inevitable in an un-filtered system. A small test filter plant is now built to determine what filtration method would be best for this system.

As usual, the system's water was comparatively soft, averaging in "hardness" 63 parts per million, or 3.68 grains of solid matter per gallon of water.



Miscellaneous Facts About Water Department

• Because it must control so much land for the protection of its water sources, the Department now shares in the profit from cattle leases, a golf course, a rock quarry and from sharecropping.

• The Department recently turned over the recreational facilities at Lake Merced to the Recreation-Park Commission, although it retains the right to use the water from the lake as an emergency water supply.

• Maximum daily consumption of water in San Francisco proper during the year was 102,574,000 gallons on May 30, 1950, while the minimum use was 63,249,000 on April 9, 1950.

• There has never been a case of illness traced to the San Francisco water supply.

• The city of Hayward became a customer of the Department October 21, 1949. Hayward needs more water than its own supply can provide.

SAN FRANCISCO WATER DEPARTMENT
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1949-1950

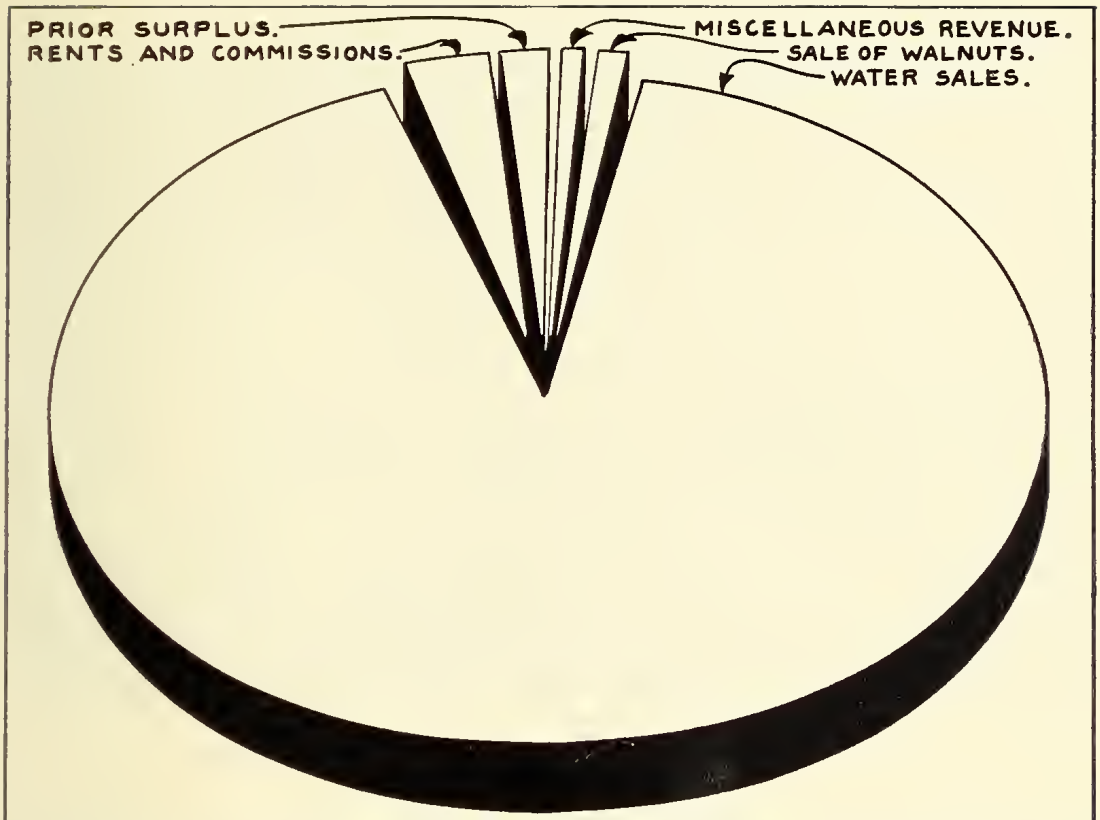
What We Received:

Revenue from the Sale of Water	$10,151,100
Revenue from the Sale of Walnuts	25,547
Rents and Commissions	147,780
Miscellaneous Revenue	28,324
Prior Year's Surplus	69,391
Total Receipts	$10,422,142

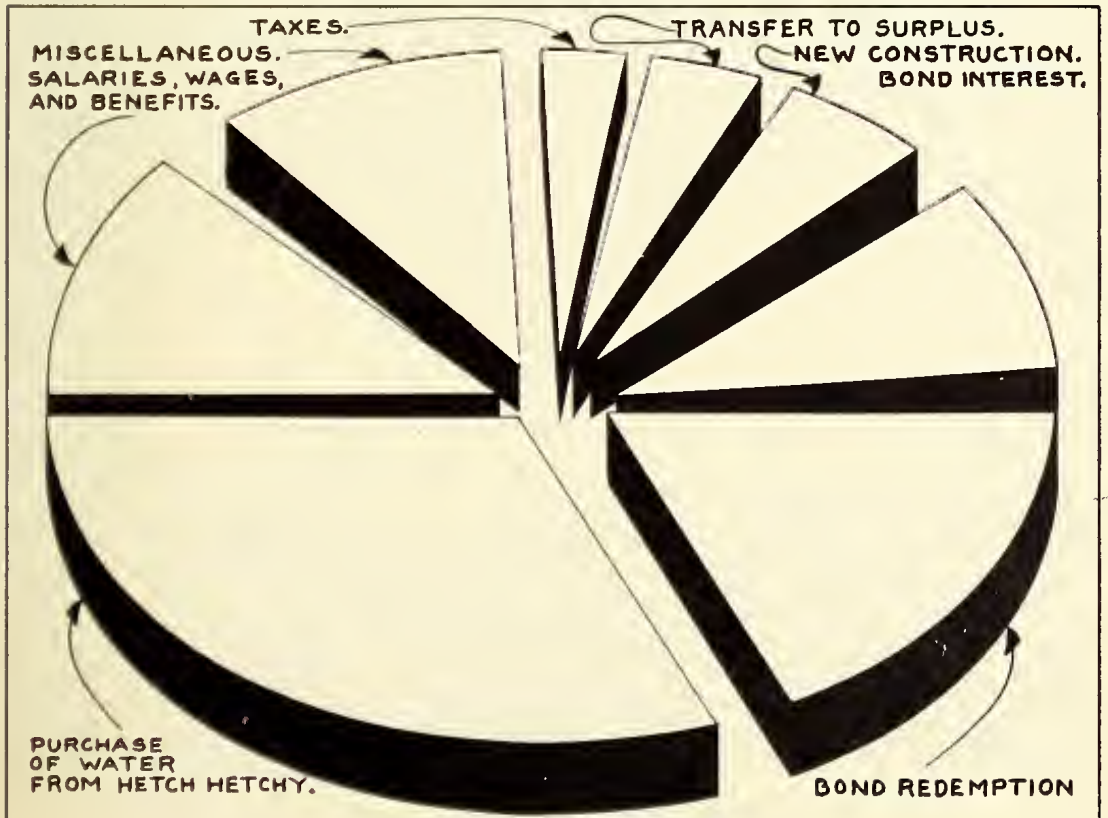
Where Money Went:

Salaries, Wages, Including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 1,154,409
*Miscellaneous	$ 4,913,625
Taxes	504,339
Bond Interest	1,052,577
Bond Redemption	1,648,645
New Construction	378,327
Reconstruction and Replacement	159,606
Total Expenditures	$ 9,811,528
Unappropriated Revenue Transferred to Surplus	610,614
	$10,422,142

*Material and Supplies	$ 84,225
Contractual Services	1,143,539
Standby Charge and Purchase of Water	3,624,841
Other Expenses	61,020
	$4,913,625



GROSS RECEIPTS



EXPENDITURES

BEFORE

This picture shows the previous dismal appearance of the Stockton Street Tunnel.

AFTER

Things were considerably brighter when the fluorescent lights were installed in the tunnel this year.

BUREAU OF LIGHT, HEAT AND POWER

History and Function:

The functions of this Bureau include the design, construction and operation of the street lighting system, the purchase of utility services for all departments of the City and the furnishing of heat and illumination engineering services to all City departments.

Prior to 1932, when the present City Charter became effective, the city street lighting problems were handled by the Board of Supervisors, while each individual department handled its own utility bills. Under the new charter, however, these functions were consolidated in this Bureau.

Since that time City-owned lights have increased from 934 to 5,203.

In keeping with the Charter intentions, the City has gradually acquired ownership of street lights by selecting various arterials that were very much in need of new lighting and has done the job. Thus the number of lights owned by the Pacific Gas and Electric Company is reduced and City-owned lights increased. This results in lower operating costs, as the cost per light per year for privately-owned lights is $33.27, as compared to $26.90 for those owned by the City.

Eventually, the City will own all of the street lights.

The Bureau operates in close cooperation with the Police Department in installing so called "Traffic Safety Lights" to reduce the hazards at certain locations.

Street Light Operations:

During the year, 257 new lights were installed in the various districts throughout the City, and plans were made for the installation of more than that in the fiscal year 1950-51.

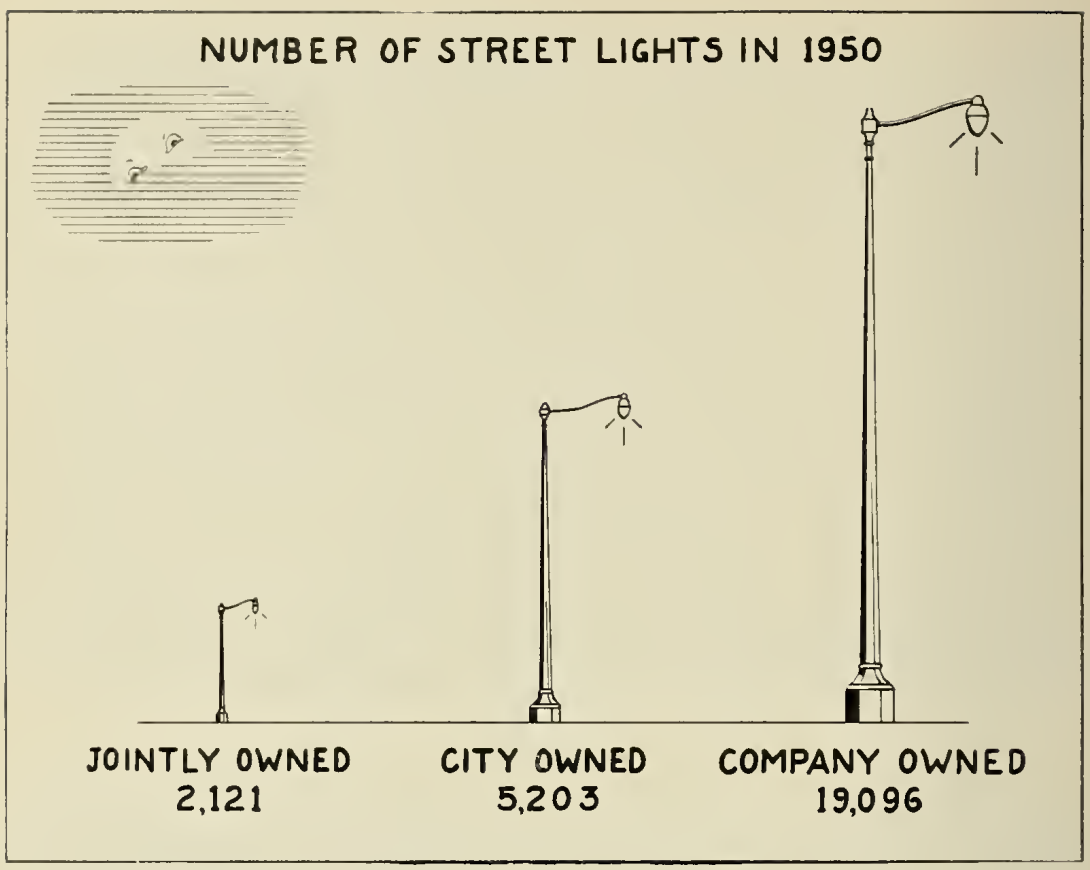
At the close of the year there were 26,420 street lights in service, 2,121 being jointly owned with the Pacific Gas and Electric Company, 19,096 wholly owned by the PG&E and 5,203 wholly owned by the City.

Operational expenses of the street lighting program were $853,744.94, a decrease from last year's expenditure of $859,189.27 due to better damage collections and a decrease in purchases of stock, office and automotive equipment.

Requests to the Bureau for improved street lighting dropped from 144 in 1948-49 to 127 this year. This is attributed to less development of unimproved streets and tracts in the various sections of the City.

Through the cooperation of interested citizens, the Police Department and from inspections by this Bureau, the number of lights reported out of service totaled 27,545. The report of outages saves the City money, as no payment is made to the PG&E for lights not in service.

Except in unusual instances, requests for shades on the house side of lights were discouraged because such shades reduced street illumination by elimination of light reflected from buildings.



Light Engineering:

Major projects on which new lights were installed during the year are:

Bush Street, Van Ness Avenue to Presidio Avenue.

Pine Street, Van Ness Avenue to Presidio Avenue.

O'Shaughnessy Blvd., Portola Drive to Congo Street.

California Street, Presidio Avenue to Maple Street.

Geneva Avenue, Mission Street to County Line.

Altogether new construction completed in 1949-50 cost $349,567, bringing the total investment in city-owned street lighting to $2,389,702. Of this total investment, only $1,638,648 was expended by the City, the remainder being acquired from federal agencies or by deeds from property owners.

Engineering and inspection services are furnished many City departments which are not staffed to do this type of work. Typical examples include services to the Recreation and Park Department for floodlighting playgrounds and lighting and heating recreational centers; to the Bureau of Architecture for various interior lighting plans, and to the Water Department for plans and specifications for installation of large synchronous motors and electrical equipment in its pumping and lime treatment plants.

This Bureau is responsible for the design and function of the electrical energy distribution system at the San Francisco Airport which retails power to thirty tenants at rates similar to those applied by the PG&E. This resulted in a profit of $21,176.39 to the Airport for the year.

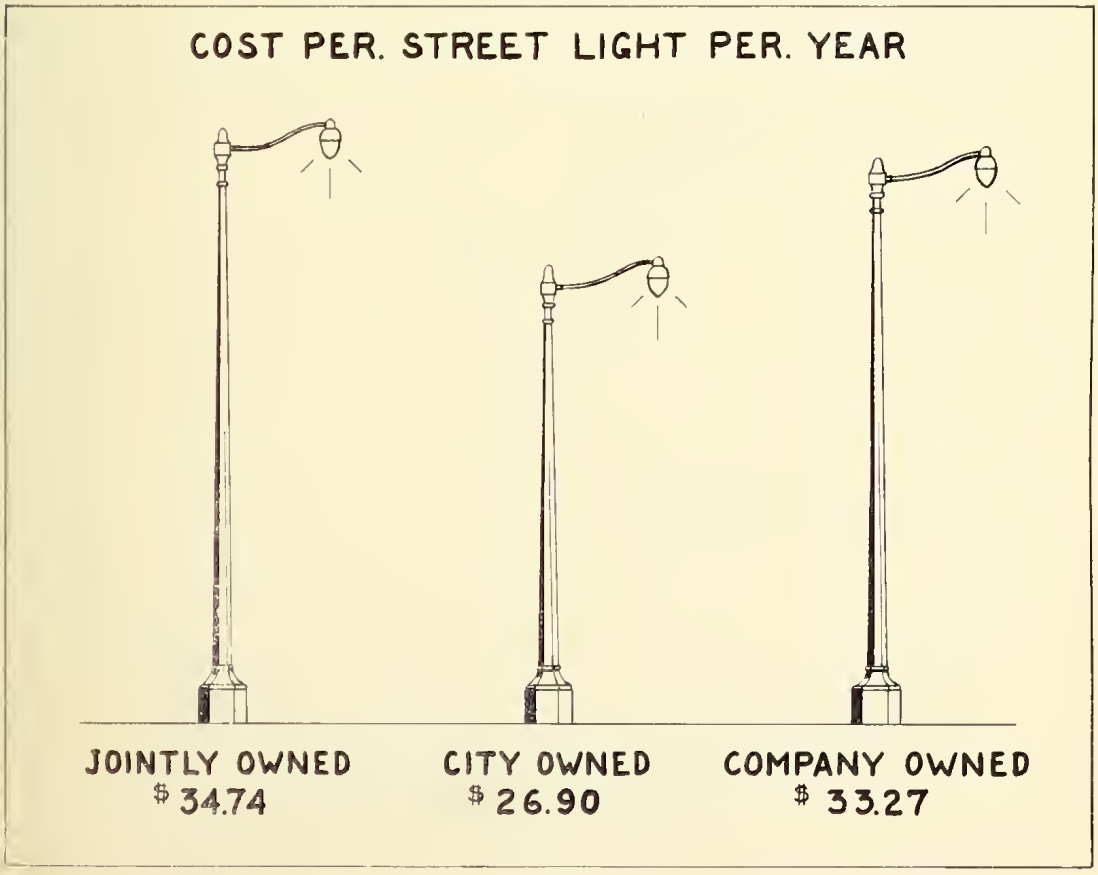
Gas and Electric Supply:

During the fiscal year 8,252,261 cubic feet of natural gas and 131,156,035 kilowatt hours of electricity were used for muncipal purposes, exclusive of electric energy used for street lighting. These uses include heating and lighting the schools, City Hall, City office buildings, etc. Gas for heating cost $242,727.56, paid to the Pacific Gas and Electric Company, while $1,455,112.09 was paid to Hetch Hetchy for electricity.

Overall use of electricity for municipal purposes shows a decrease of 7% as compared to 1948-49, due largely to substantial decreases in use by the Municipal Railway and the San Francisco Water Department.

Three price changes in fuel oil used in heating resulted in an overall decrease in price from $1.85 to $1.60 per barrel.

One of the important functions of the Bureau is that of rate advisory work which deals with the interpretation and application of the various gas and electric rate schedules. A constant physical survey of plant operation and costs is maintained to assure that proper rate schedules are being applied. This often discloses reasons for changes to plant or plant operation that will result in a lower cost for gas or electricity. Under such circumstances the Bureau recommends such changes and offers the design and inspection services. Final decision on any change, however, rests with the particular City department involved.



BUREAU OF LIGHT, HEAT AND POWER
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1949-1950

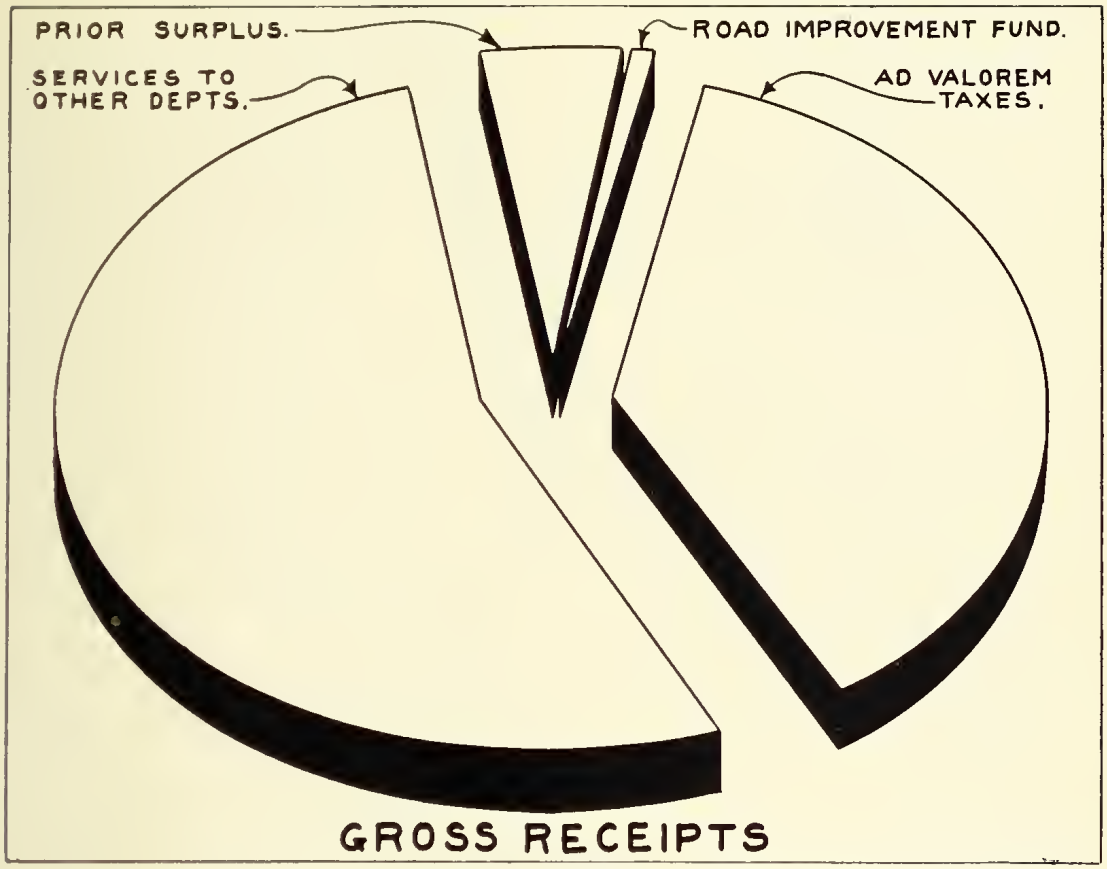
What We Received:

By Transfer from Other Current Funds for Electricity and Gas — Interdepartmental	$1,643,400
Special Road Improvement Fund	26,000
Ad Valorem Taxes	1,005,986
Prior Year's Surplus	210,975
	$2,886,361

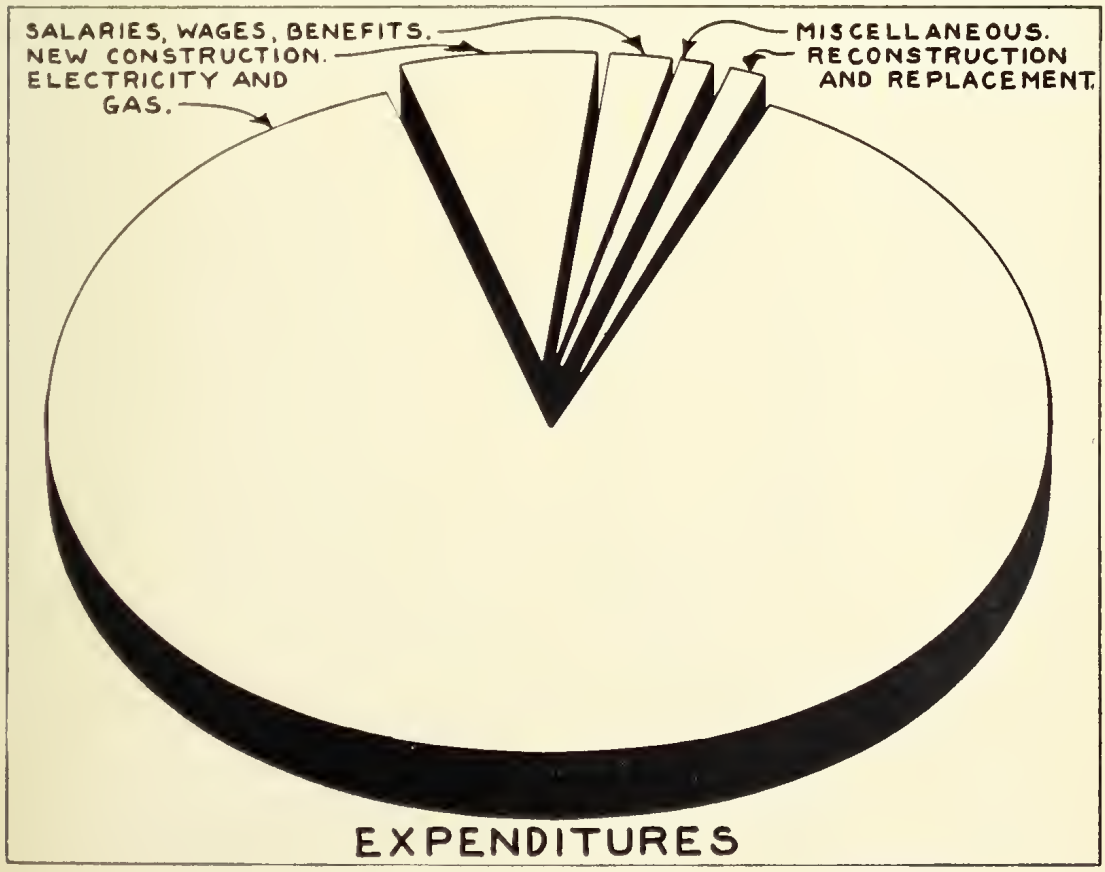
Where Money Went:

Salaries and Wages Including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 84,604
*Miscellaneous	11,192
**Electricity and Gas for Street and Public Building Lighting and Other City Departments	2,509,470
New Construction	276,603
Reconstruction and Replacement	4,492
	$2,886,361

*Contractual Services	$	1,033
Maintenance and Repair of Structures		8,357
Material and Supplies		1,667
Insurance		135
	$	11,192
**Electricity and Gas—Interdepartmental	$	1,643,410
Public Building Lighting		34,318
Lighting of Public Streets		831,742
	$	2,509,470



GROSS RECEIPTS



EXPENDITURES

ALL NIGHT LONG

A shot of just one of the "Fingers" of the passenger concourse at the airport illustrates the constant activity which goes on at the field. The period of heaviest traffic is from four p. m. to 12 midnight.

SAN FRANCISCO AIRPORT

Brief History:

From the days when airplanes were no more than power-driven kites, San Francisco and the Bay Area have played an important role in the development of aviation. It was in this area, in 1911, that the first bomb was dropped from an airplane and, in the same year, an airborne mechanic, Eugene Ely, landed and took off safely from the deck of a naval vessel anchored in San Francisco Bay. This marked the first "carrier" operation of aircraft.

San Francisco's airport was authorized in 1926, and, in 1927, land was leased at the site of the present field, putting the City in the airport business. It was strictly a "tough luck" enterprise for a few years, with the weather, its own inadequacies and fate conspiring to make trouble.

In 1932 the infant utility, having had its name changed from Mills Field to San Francisco Airport the previous year, came under the jurisdiction of the Public Utilities Commission. The breaks started coming the right way. Dilligent efforts on the part of management "sold" several airlines on switching their operations from Oakland to San Francisco. Good planning and essential construction made the field safe and efficient.

From then on, it became a race in which the San Francisco Airport, as well as other airports, tried to keep pace with the great strides being made in the development of aircraft. Some $21,000,000 has been spent to date by the citizens of San Francisco in capital improvements at the field. But this investment has made a great new business come into being. Today the airport is the hub of the aviation industry in the Bay Area, an industry which contributes nearly $40,000,000 to the community's economic channels every year.

General:

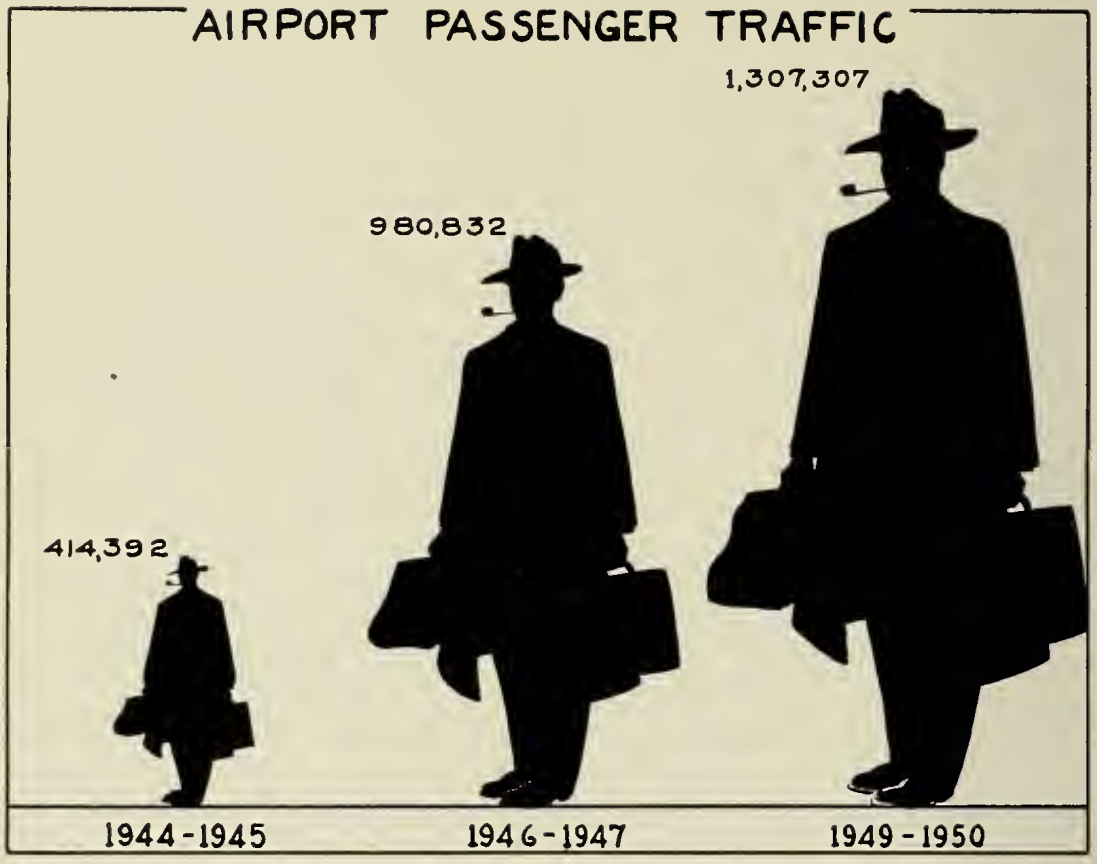
With greatly increased traffic, the Airport's total operating revenue for the fiscal year jumped to $650,900, an increase of 42% over the previous fiscal year. Some of the increase can be attributed to such new revenue-producing concessions as a public parking lot, a U-Drive automobile rental business and a new ground transportation agreement covering transportation between the Airport and other points. This latter agreement had the extremely desirable effect of reducing the cost to passengers and, at the same time, increasing the revenues of the airport.

The parking lot concession has developed into an important revenue producer for the airport, inasmuch as the City receives 67½% of the gross receipts of the operator.

The Airport Department and the Public Utilities Commission were working on plans at the end of the fiscal year for increasing revenues even further in an attempt to produce sufficient funds to cover operating expenses. (Financial details are included at the end of this section).

In November, 1949 the citizens approved a $10,000,000 bond issue for the completion of the current airport expansion program. Primarily these funds will be used for construction of a new passenger terminal and related facilities.

The last few days of the fiscal year saw the start of the Korean War and, immediately, a civilian defense and security plan for the airport was drawn up and steps taken to have this plan ready to work in the event of an emergency.



Traffic:

Airplane travel, once the transportation of the rich and the daring, has come to be commonplace. The last fiscal year's passenger traffic volume at the San Francisco Airport once again set a new record, with 1,307,307 persons using the various commercial air carriers. This represents a 21.3 per cent increase over the total of 1,077,941 passengers passing through the airport in 1948-49.

Again, a major cause of the large volume was the reduced fare air transportation available through several companies to Los Angeles. The traffic of all kinds between these two major Pacific Coast metropolitan areas has always been heavy, but the ease and convenience of an inexpensive, two-hour air trip between the cities have stimulated such travel even more.

A significantly small increase in air carrier airplane movements, despite greater passenger volumes, indicates that larger airplanes have come into greater usage. As compared to a 21.3 per cent jump in passengers, the air carrier movements have gone up only 4.8 per cent. A casual visitor to the airport can spot this change, as there are few of the older 20-passenger planes in use. Instead, the fast, 40- and 50-passenger aircraft are used, even on some of the shortest runs.

Air freight, a new business that has boomed spectacularly in the last three years, again showed a healthy increase of 12.9 per cent over the previous fiscal year. This year 34,030,680 pounds of air freight was handled at the airport.

Air mail, after tailing off for several years, again is climbing. The fiscal year saw 14,929,703 pounds handled at the field, an increase of 0.8 per cent over the previous year.

SAN FRANCISCO AIRPORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATONS

REVENUE PASSENGER ACTIVITIES

	Revenue Passengers In and Out 1948-1949	1949-1950	% Increase Decrease	Revenue Passengers On and Off 1948-1949	1949-1950	% Increase Decrease
July	95,438	112,253	17.6	84,788	99,998	17.9
August	102,137	116,651	14.2	91,435	100,978	21.3
September	98,553	123,701	25.5	88,075	105,679	20.0
October	88,551	115,521	30.4	79,152	99,683	25.9
November	80,332	96,934	20.6	72,105	82,190	14.0
December	87,895	92,475	5.2	77,651	73,428	—5.4
January	72,687	84,879	16.7	65,257	68,756	5.3
February	69,852	86,037	26.6	64,225	70,026	9.0
March	80,750	98,763	22.3	73,413	81,357	10.8
April	89,164	107,497	20.5	80,780	84,808	5.0
May	101,149	123,942	22.5	91,624	99,510	8.6
June	111,433	148,654	33.4	101,607	118,177	16.3
TOTALS	1,077,941	1,307,307	21.3	970,112	1,084,590	11.8

SAN FRANCISCO AIRPORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATIONS

AIR MAIL AND AIR EXPRESS-FREIGHT

	Pounds of Air Mail 1948-1949	1949-1950	% Increase Decrease	Pounds of Air Express-Freight 1948-1949	1949-1950	% Increase Decrease
July	1,001,612	1,097,204	9.5	2,094,224	2,425,823	15.8
August	1,023,997	1,131,359	10.4	2,092,499	3,267,873	56.1
September	1,071,844	1,106,978	3.2	2,304,198	3,092,288	34.2
October	1,208,456	1,160,465	—4.0	2,699,211	2,993,435	10.9
November	1,242,230	1,212,466	—2.4	2,553,704	2,579,508	0.1
December	1,965,839	1,955,519	—0.5	2,892,820	3,091,766	6.8
January	1,230,662	1,142,783	—7.1	2,160,064	2,283,211	5.7
February	1,141,928	1,088,097	—4.7	2,553,943	2,439,172	—4.4
March	1,249,666	1,244,847	—0.3	3,018,736	2,798,049	—7.3
April	1,217,349	1,229,016	0.9	3,001,957	2,736,471	—8.8
May	1,226,338	1,323,292	7.9	2,539,610	3,353,119	32.0
June	1,226,075	1,237,677	0.9	2,527,040	2,969,965	17.5
TOTALS	14,805,996	14,929,703	0.8	30,137,039	34,030,680	12.9

SAN FRANCISCO AIRPORT
AIRCRAFT MOVEMENTS

	AIR CARRIER		% Increase Decrease	ITINERANT		% Increase Decrease	LOCAL		% Increase Decrease	TOTAL		% Increase Decrease
	1948-49	1949-50		1948-49	1949-50		1948-49	1949-50		1948-49	1949-50	
July	6500	7777	19.9	2160	2262	4.7	2966	2455	–17.2	11626	12494	7.5
August	6589	6991	6.1	2147	1956	– 8.8	3086	2252	–27.0	11822	11199	– 5.3
September	6775	6502	– 4.0	2287	1771	–22.5	2964	1943	–34.4	12026	10216	–15.0
October	6871	6665	– 3.0	1976	1847	– 6.5	2822	2368	–16.1	11669	10880	– 6.7
November	6313	6702	6.1	2022	1466	–27.5	2319	2009	–13.3	10654	10177	– 4.5
December	5781	6442	11.1	1414	1129	–20.2	1830	1468	–19.8	9025	9039	0.1
January	5582	6676	21.3	1475	1088	–26.2	2145	1803	–15.9	9202	9567	3.9
February	5672	6017	6.1	1393	1057	–24.1	2347	1628	–30.6	9412	8702	– 7.5
March	5696	6409	14.0	1643	1567	– 4.6	2878	2014	–30.0	10217	9990	– 2.2
April	6110	6302	3.1	2147	1598	–25.6	2953	1470	–16.3	11210	9370	–16.4
May	6689	6627	– 0.9	2177	1623	–25.4	2687	1634	–39.0	11553	9884	–14.4
June	7504	6667	–11.1	2374	1621	–31.7	2659	1808	–32.0	12537	10096	–19.4
TOTALS	76082	79777	4.8	23215	18985	–18.2	31656	22852	–27.8	130953	121614	– 7.1

Field Construction:

The fiscal year saw the field construction at the airport coming to completion, after three years of intensive work involving the movement of over twelve million cubic yards of earth fill. While the finishing touches are yet to be put on the field design, the pattern is now set and the tremendous amount of construction that is not apparent to the casual visitor is done.

This field pattern involves four runways, each 200 feet wide and of different lengths, the longest being almost 9,000 feet in order to serve the largest and heaviest of the commercial aircraft now in use. Two parallel runways extend in the same direction as the prevailing wind, while the other two parallel runways extend in the direction of the storm wind which occasionally rises. There are two runways in each direction so that one airplane can land while another airplane is taking off.

The remaining work to be done under the 1945 Airport Bond program consists primarily of constructing a system of runway, taxiway and approach lighting; utilities to serve the Airport; additional warmup aprons; a taxiway to serve the new terminal area; a standby power plant for emergency use, and many smaller but vital improvements.

All of the construction at the field is being done under the $20,000,000 1945 Airport Bonds, and does not reflect in the operating budget of the airport. This year construction work completed cost $2,737,178.02 of bond funds. As of June 30, 1950 the amount expended out of the $20,000,000 totaled $17,078,524.57.

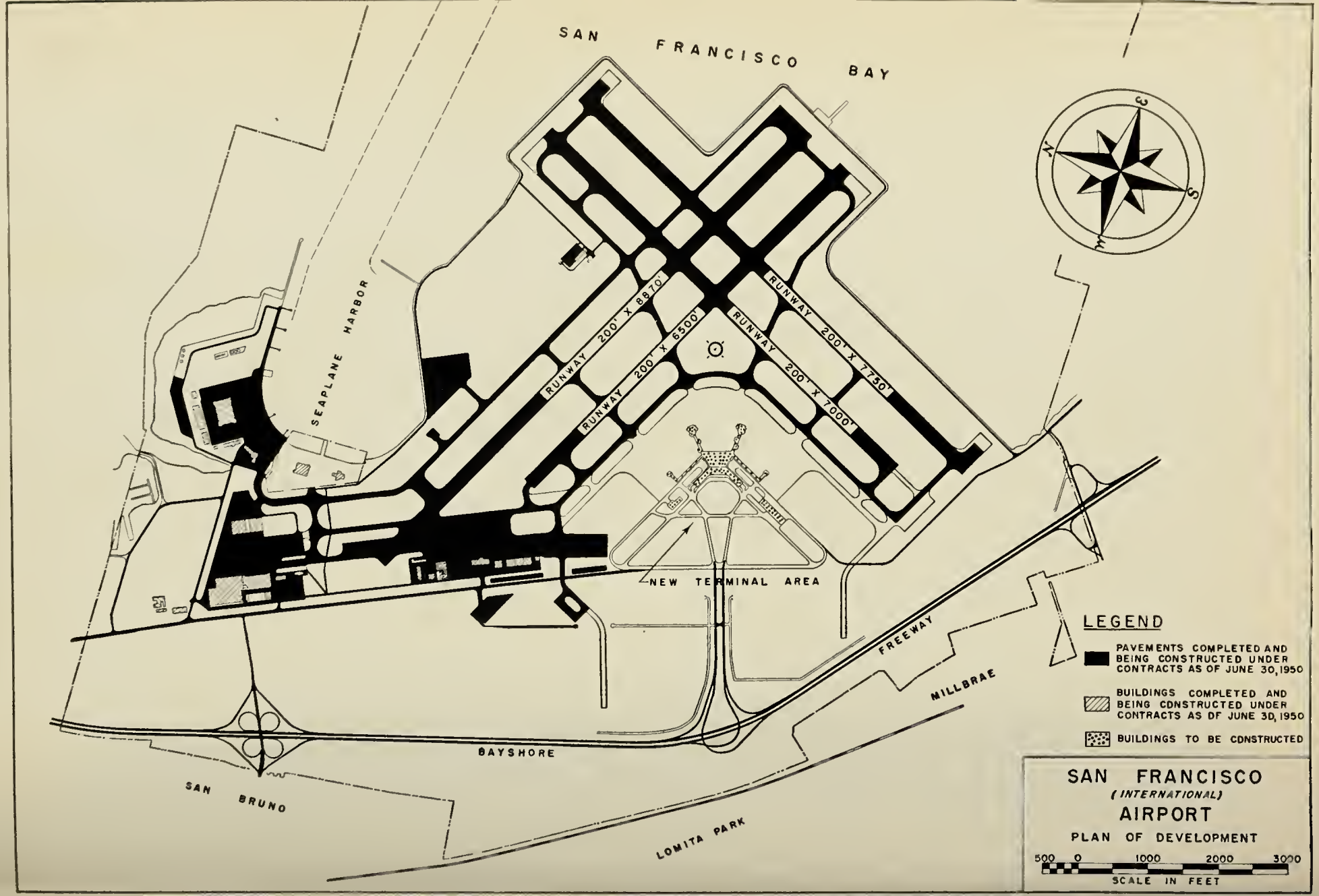
Government Agencies on Field:

The United States Weather Bureau Station for this area (largest west of Chicago) is located at the airport and this year moved into a new addition to the terminal building in order to have room for its many functions.

Of course, the most obvious Federal function on any field is the Civil Aeronautics Administration's control tower. Atop the building, the control tower operators direct all air traffc in the vicinity of the field, as well as all traffic on the field itself, including the movement of ground vehicles in the operational area. Communication is by very high frequency radio equipment. Radar equipment will be put into service soon.

Another important CAA activity is the Overseas Foreign Aeronautical Communication Service (OFACS) which has a station on the field. This station maintains radio contact with all trans-Pacific flights between the Pacific Coast and Hawaii. It also collects meteorological information from the entire Pacific area including Asia and disseminates this data throughout the United States.

The Coast Guard Air Station on the airport, responsible for air-sea rescue and other work, patrols the territory from the Oregon-California boundary to Santa Maria, California and half way to the Hawaiian Islands. This area is patroled by especially equipped Flying Fortresses, which carry droppable life boats, and Martin PBM Mariners. A helicopter is also available for special jobs.


SAN FRANCISCO BAY
SEAPLANE HARBOR
RUNWAY 200' X 8870'
RUNWAY 200' X 6500'
RUNWAY 200' X 7000'
RUNWAY 200' X 7750'
NEW TERMINAL AREA
FREEWAY
MILLBRAE
BAYSHORE
SAN BRUNO
LOMITA PARK
N
E
S
W
LEGEND
PAVEMENTS COMPLETED AND BEING CONSTRUCTED UNDER CONTRACTS AS OF JUNE 30, 1950
BUILDINGS COMPLETED AND BEING CONSTRUCTED UNDER CONTRACTS AS OF JUNE 30, 1950
BUILDINGS TO BE CONSTRUCTED
SAN FRANCISCO
(INTERNATIONAL)
AIRPORT
PLAN OF DEVELOPMENT
500 0 1000 2000 3000
SCALE IN FEET

New Terminal Plans:

In November, 1949, the citizens of San Francisco approved a $10,000,000 Airport bond issue in order that the expansion program started in 1945 should be completed. The electorate recognized that the original $20,000,000 bond issue voted in 1945 was insufficient to do the job because of the tremendous rise in prices during the past five years.

Primarily, the $10,000,000 issue was needed for the construction of a new passenger terminal, the structural and field work in the immediate vicinity of the terminal, the completion of the taxiway pattern, and installation of the most modern field lighting.

During the year Architect William P. Day submitted preliminary plans for the new building to the Public Utilities Commission. At that time the commission set up a series of conferences among those who will use the new building in order to get their recommendations. The federal government, which will use the building extensively for Customs, Immigration, Civil Aeronautics Administration, Weather Bureau and other purposes submitted its recommendations and suggestions.

All the airlines, possessing a vast knowledge of airport problems and operations, were represented by a technical committee which reviewed all the plans and submitted suggestions. These included substantial changes in the interior arrangement of the functioning parts of the proposed building.

The commission, after consideration, adopted many suggestions and authorized the drawing of working plans for the new structure. It was expected that bids would be taken upon these plans early in 1951 at which time the final cost of the building could be ascertained.

Value of Airport to Community:

Everyone knows that industrial payrolls are reflected in scores of different ways in the economic life of any community, yet it is hard to say just exactly how valuable any given industry is to its town or city or area. Recently, however, the San Francisco Chamber of Commerce, after considerable research, developed information which showed, by the way of illustration, an annual payroll of $400,000 would substantially support so many homes, so many autos, so many school rooms, etc.

Applying these figures to the $20,000,000 annual payroll provided by the private airline companies operating at the San Francisco Airport the results indicate that the aviation industry at the Airport substantially supports 1,452 stores, 968 school rooms, 17,292 homes, 1,056 professional men and 14,080 automobiles.

In addition to the direct payrolls, the airlines based at the airport spend large sums of money for various services in the community that again are reflected in the economic chain that eventually leads to every home in the area. For example, one large airline spends around $150,000 annually for ordinary grocery and food items for its flights originating in San Francisco.

This aviation industry would not be centered in San Francisco and on the Peninsula without the particular kind of industrial airport San Francisco has provided. Because of this airport—this investment by the people—the industry will continue to bring millions of new dollars into this community every year.

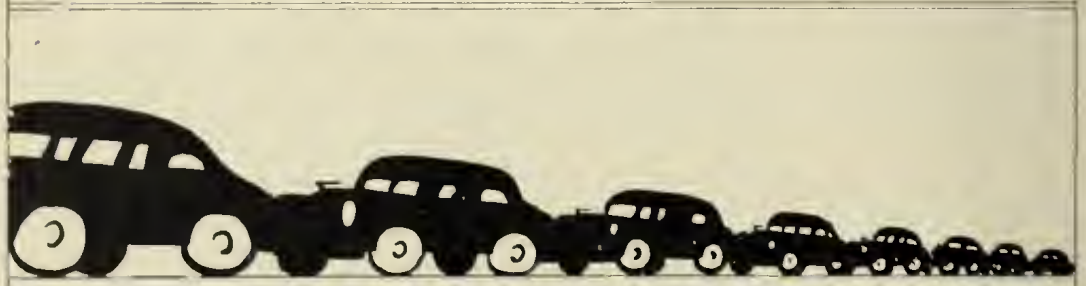
VALUE OF AIRPORT TO COMMUNITY

1452 STORES

968 SCHOOL ROOMS

17,292 HOMES

1,056 PROFESSIONAL MEN



14,080 AUTOMOBILES

Miscellaneous Facts About San Francisco Airport

• The third annual Air Fair sponsored by the San Francisco Junior Chamber of Commerce attracted 100,000 visitors to the Airport in October, 1949. It is believed this is the largest crowd ever to attend a non-racing air show in the United States.

• The airport facilities were made available to additional private aircraft when the Public Utilities Commission repealed the regulation that all aircraft using the airport be capable of maintaining a cruising speed of 120 miles per hour. The only limitation still existing is that all aircraft using the field must be equipped with two-way radio in order that the pilot can take traffic instructions from the control tower.

• One of the new runways placed in operation during the year (6,500 feet long and 200 feet wide) is the equivalent in surface area of five miles of two-lane highway.

• A large section of the field which is not yet developed for industrial uses is rented out as acreage for growing hay and later as pasture for a dairy herd.

• The airline maintenance and overhaul bases at the airport serve as the servicing center for the many commercial airplanes on the Korean Airlift.

TROUBLE!

The U. S. Coast Guard Air-Sea rescue teams are in constant readiness to answer calls of distress.

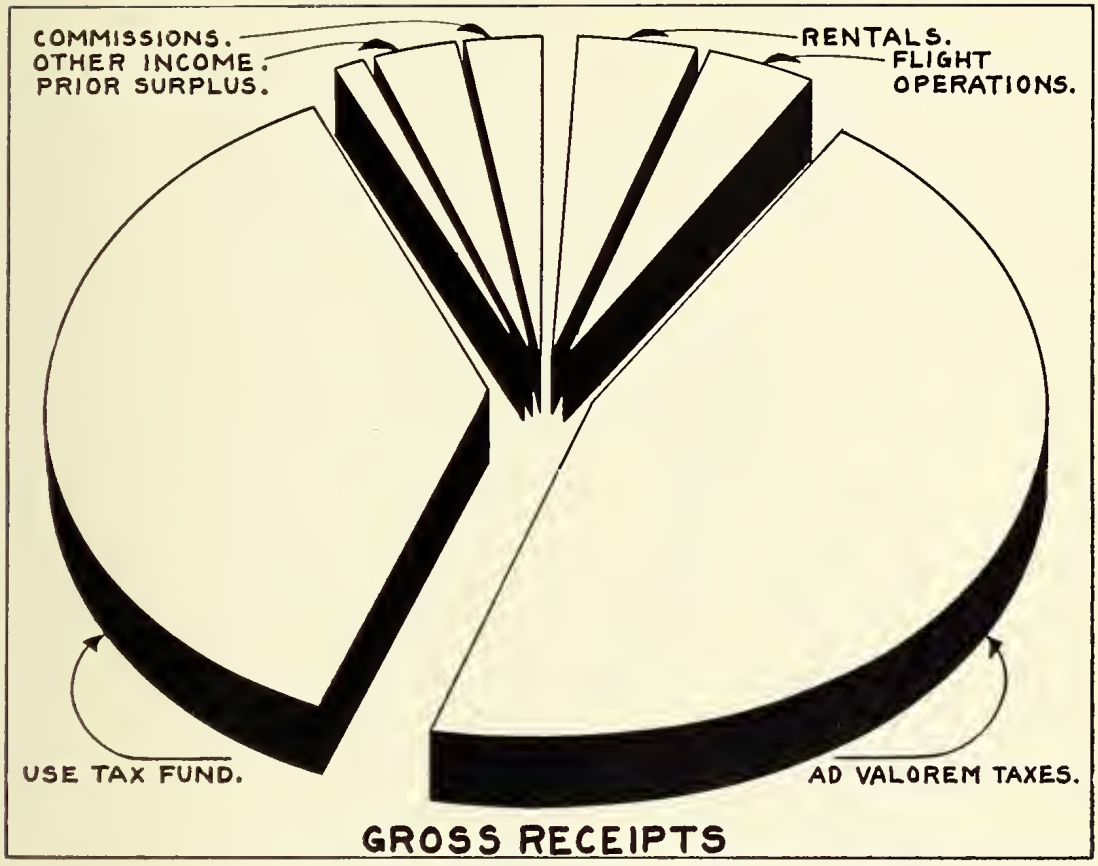
SAN FRANCISCO AIRPORT
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1949-1950

What We Received:

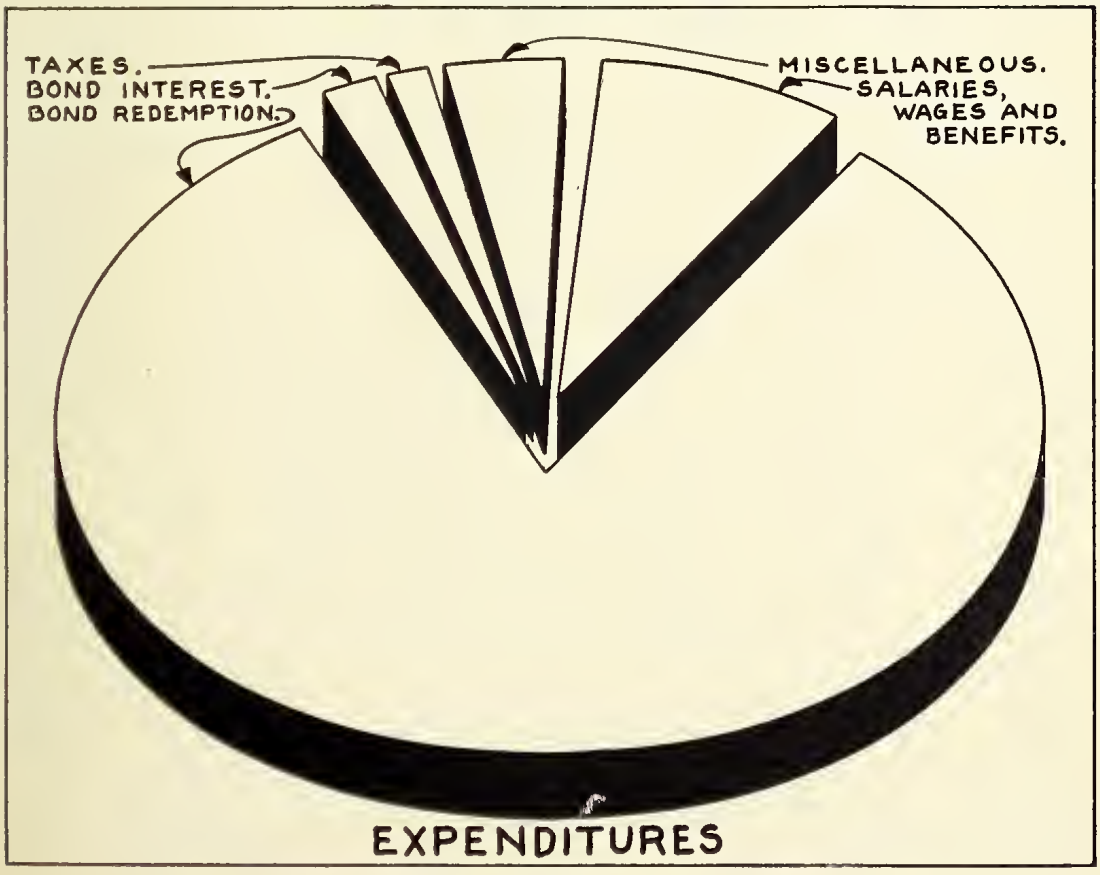
Air Carrier Flight Operations	$ 155,234
Rentals	191,191
Commission on Permits Outside Passenger Terminal Building	64,998
Commission on Agencies	96,239
Other Income	143,238
Total Revenue	$ 650,900
Prior Year's Surplus	$ 25,910
Capital Improvement Fund (use tax)	1,148,597
Ad Valorem Taxes	1,685,775
Total Receipts	$3,511,182

Where Money Went:

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits		$ 378,829
*Miscellaneous		223,915
Taxes		76,313
Bond Interest		87,584
Bond Redemption		2,744,541
Total Expenditures		$3,511,182
*Contractual Services	$ 79,981	
Heat, Light and Power	120,689	
Material and Supplies	8,609	
Insurance	12,499	
Other	2,137	
	$223,915	



GROSS RECEIPTS



EXPENDITURES

STORED FOR THE NIGHT

The Presidio Avenue trolley coach yard is shown filling up with the railway's most popular vehicle after the day's rush is over. Trolley coaches were the only vehicles that ran "in the black" during the year.

HISTORY OF MUNICIPAL RAILWAY

The Municipal Railway was founded by the City and County of San Francisco in compliance with the general policy embodied in the City Charter that utilities shall be municipally owned and operated. The Railway began operations December 28, 1912.

It was a popular and successful enterprise from the start. By 1944 it had accumulated a two million dollar surplus which was used as down payment on the $7,500,000 purchase price of the old Market Street Railway. The purchase of this private property, quite frankly termed a "bunch of junk" by those advocating the purchase, was prompted by the dire need for transit in San Francisco during the war when workers had to be moved efficiently to and from their jobs. The old Market Street Railway was not accomplishing this task. The electorate approved purchase of the private company in May, 1944, and consolidation was effected September 29, 1944.

In the thirty-seven and one-half years of business, the Municipal Railway, primarily operated for service rather than profit, has received a total of $4,741,705 in tax funds. Most of this, $4,312,335.02, has been invested in capital improvements, while only $439,369.98 has been required for operating expenses. Greatest portion of tax money has been required in the years after World War II.

The basic fare of the Railway has risen from a straight five cents to ten cents. It was raised from five to seven cents at the time of consolidation; to 8 1/3 cents token fare May 20, 1946 and to ten cents January 26, 1949.

SERVICE

Confronted with the same problem that is plaguing all transit companies throughout the nation—that of rising costs and fewer passengers—the Public Utilities Commission and the railway management has sought to IMPROVE SERVICE and REDUCE COSTS. To accomplish this, the railway, wherever practical, has been changed from expensive streetcar operation to trolley coach and motor coach service, utilizing the $20,000,000 Railway Rehabilitation Bond Fund approved by the voters in 1947.

Improved service HAS been achieved and some costs HAVE been reduced, while others have continued to rise. Better service for the entire system is best reflected in the fact that the past fiscal year saw a total of 31,193,768 miles operated, an increase of 1,738,821 miles over the annual mileage of 1945-46, a boom year for transit. This is an increase of 5.9% in the actual number of miles traveled by the various vehicles for the respective years despite a decrease of 25.8% in the number of passengers carried.

Most of this increased service has been allocated to the morning and evening peak hours and has resulted in 43% MORE SEATS available during these hours on converted lines than before the "Muni's" rehabilitation program was begun in 1948. Similarly, the "headway" or interval between vehicles during peak periods is about 50% LESS than before.

There are many problems yet to be solved. As in the past, they will be attacked with the idea that service to the riding public comes first.

Passengers and Money:

The revenue passengers carried on streetcars and coaches during the year were 187,940,600, as compared with 206,024,423 in the previous year—a decrease of 18,083,823.

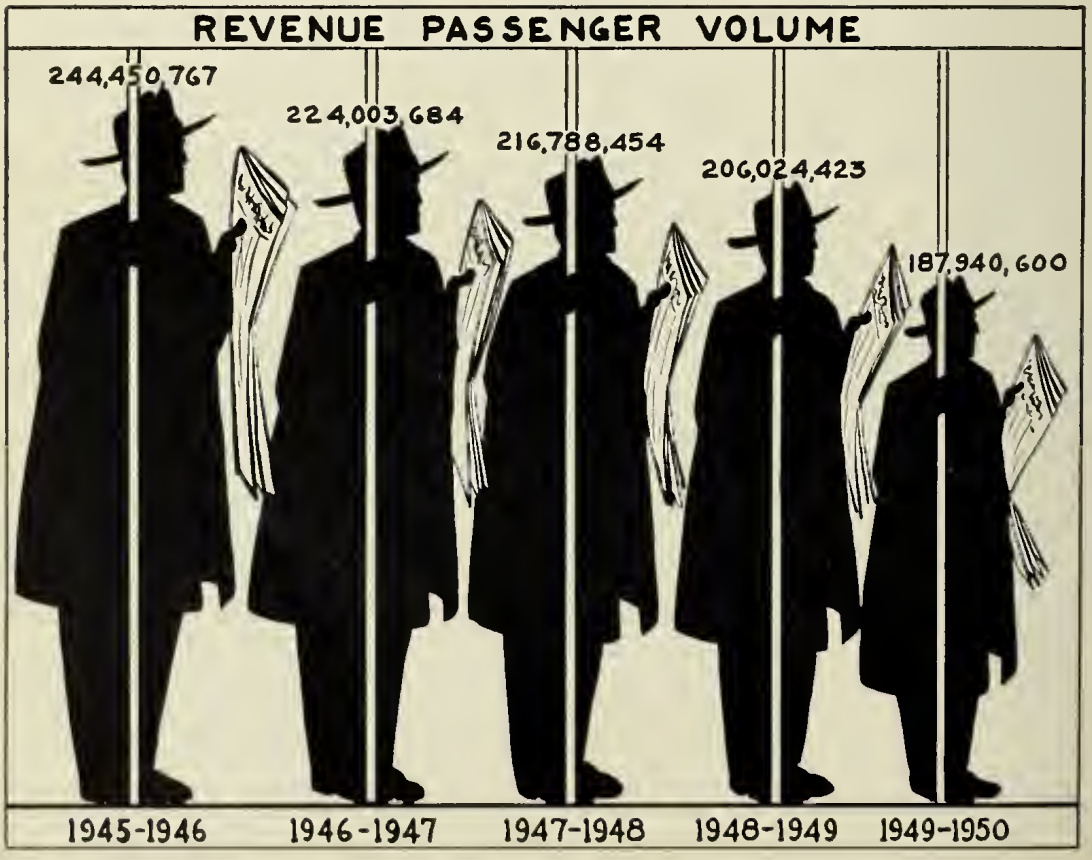
The end of gasoline and tire rationing at the termination of World War II, of course, cut into the railway's business. Continuing decreases in the past few years have been attributed to more frequent use of private automobiles. Oddly enough, the railway has indirectly contributed to this greater use of private vehicles by changing over to rubber-tired vehicles and thereby permitting the removal of many miles of streetcar tracks. This, plus repaving, has made the streets more attractive to the private driver.

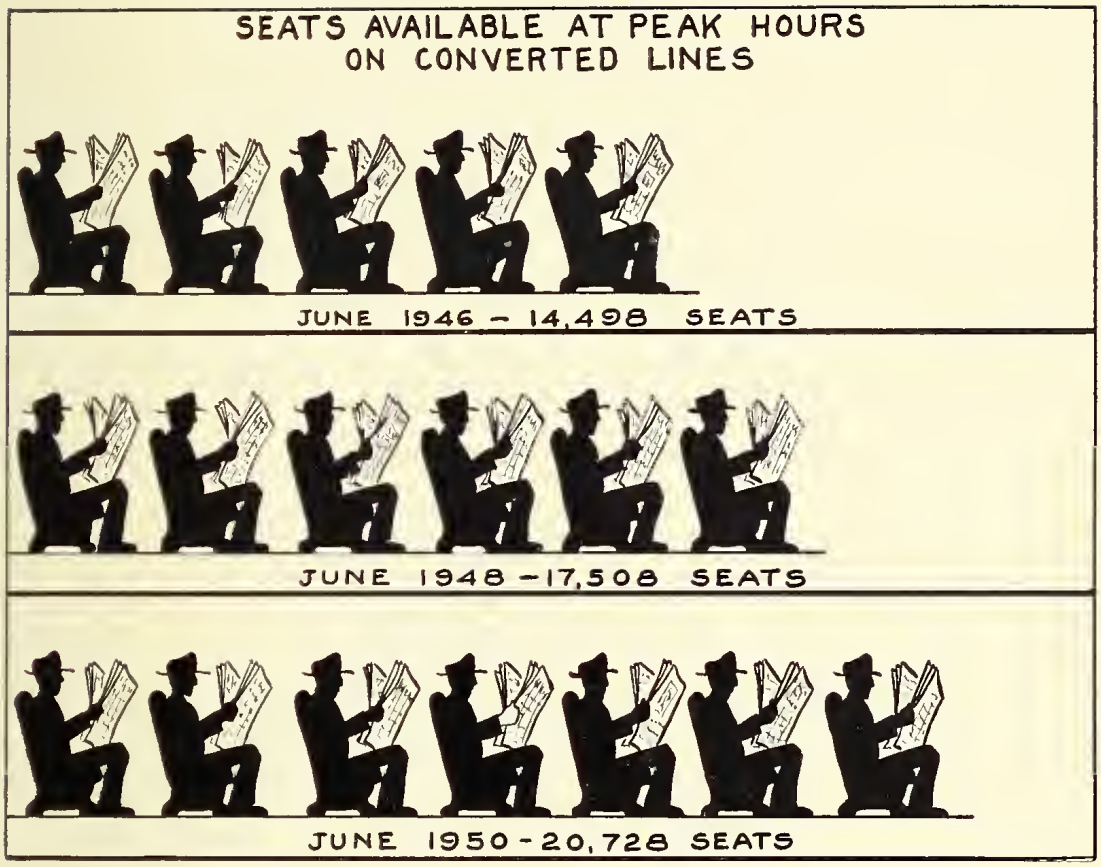
The revenue passengers paid $18,389,560 to the railway during the year, while advertising revenue, recoveries from insurance carrier, miscellaneous revenues and a prior year's surplus made up the total receipts of $20,105,048 for the year, all of which were expended in conducting the business.

Statistics reveal that the trolley coach service was the only type of service to make money during the year. The following table shows the results of the four types of operations, including depreciation and retirement charges:

NET PROFIT OR LOSS PER REVENUE PASSENGER

	Electric Street Cars	Cable Cars	Motor Coaches	Trolley Coaches	System Total
Total Revenue	.098	.0993	.0991	.0985	.0989
Total Expenses	.1232	.1299	.1155	.0858	.1111
Net profit or loss	Minus .0243	Minus .0306	Minus .0164	Plus .0127	Minus .0122





Changes:

The last year was a year of many changes—designed to provide the best possible service within the financial limitations of the Municipal Railway.

On July 3, 1949, the "Muni" underwent one of the greatest single day shifts in the history of transit in the United States, involving 14 lines and 146 miles of routes.

Numbers 1, 2, and 3 Sutter Street lines and the No. 31 Balboa line were converted from streetcar operation to motor coaches; the No. 8 Market Street streetcar line was changed to trolley coach operation, and the outer end of the "H" streetcar line was converted to motor coaches.

That same day saw the motor coach lines No. 5 McAllister, No. 6 Haight-Masonic, No. 7 Haight-Stanyan, and No. 21 Hayes switched to trolley coach operation, with extensions and rerouting made on the motor coach lines No. 20 Ellis, No. 25 Bryant and No. 55 Sacramento.

On March 19, 1950, the No. 9 Mission motor coach line changed over to trolley coaches, while street car lines "D" (Van Ness-Union) and "H" (Van Ness-Potrero) switched to motor coach operation, the "D" being redesignated as No. 45 and the "H" as No. 47. Simultaneously, service of the old "D" into the Presidio was discontinued.

The night, Saturday and Sunday service on the "J" streetcar line was changed to motor coach operation.

EQUIPMENT

The end of the year found the railway with a fleet of 1,047 vehicles.

There were 495 motor coaches of which 380 were new or less than six years old.

Trolley coaches numbered 298 of which 280 are new or modern.

A total of 227 streetcars were in service, of which 15 are of the modern "President's Conference Car" design. Another 55 are old type, iron streetcars that have been modernized with new automatic doors, completely repaired and repainted. The remaining 157 are the old iron type that are still sturdy and serviceable.

There were 27 cable cars on the cable lines.

During the year, 50 trolley coaches carrying 48 passengers each were received, all of which are included in the fleet totals mentioned above. An order was placed for 60 more of these coaches, to be delivered in December, 1950.

Miscellaneous Facts About Municipal Railway

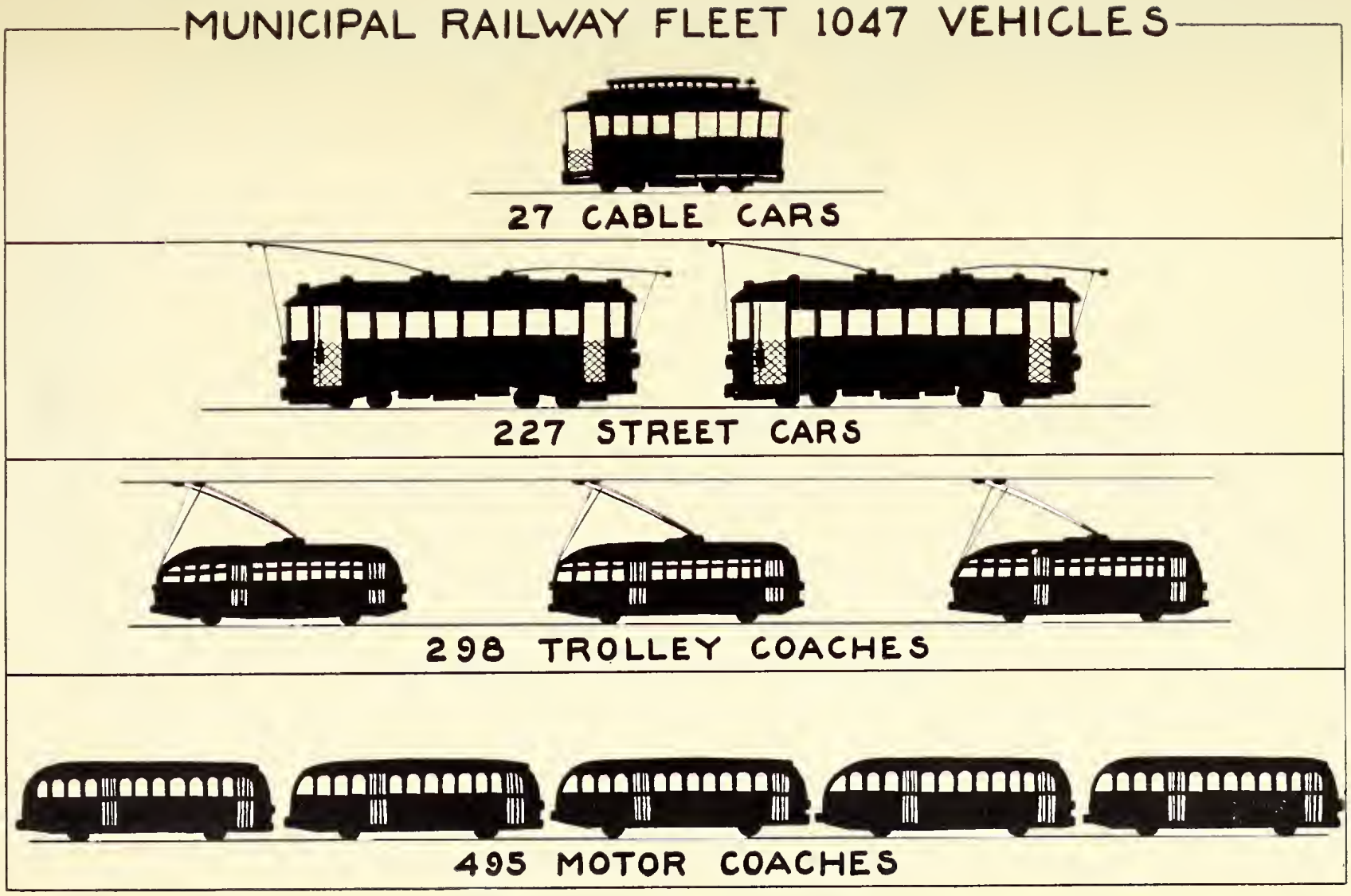
• Total number of employees in the Municipal Railway at the end of the year was 3,302 of which 2,179 were platform employees, 642 shop employees, 92 track employees and 389 office, supervisory and miscellaneous employees. The total is 291 less than the previous year.

• Despite an increase of 5.9 per cent over the previous year in total mileage operated, traffic accidents during the year decreased 4.93 per cent, totaling 5,172. Passenger accidents totaled 2,651, a decrease of 333 or 11.16 per cent from the previous year. This healthy improvement in the safety of the railway is attributed to better personnel, better training and recognition of good work, thereby supplying additional incentives for improvement.

• Colonel Marmion D. Mills, one of the nation's best known transit experts, was employed in November, 1949 to expedite and coordinate the rehabilitation of the railway and three specific reports submitted by him during the year were substantially adopted and put into effect by the Public Utilities Commission.

• The advertising firm of J. Walter Thompson conducted a survey on public sentiment about the railway and proposed an information campaign to acquaint the public with accurate facts about its railway. This program was approved by the commission.

• Biggest individual money maker during the year was the No. 5 McAllister trolley coach line which showed a net profit of $120,410.53 for the year. Biggest individual money loser was the "L" (Taraval) streetcar line which was in the red $312,716.20.


MUNICIPAL RAILWAY FLEET 1047 VEHICLES
27 CABLE CARS
227 STREET CARS
298 TROLLEY COACHES
495 MOTOR COACHES

MUNICIPAL RAILWAY
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1949-50

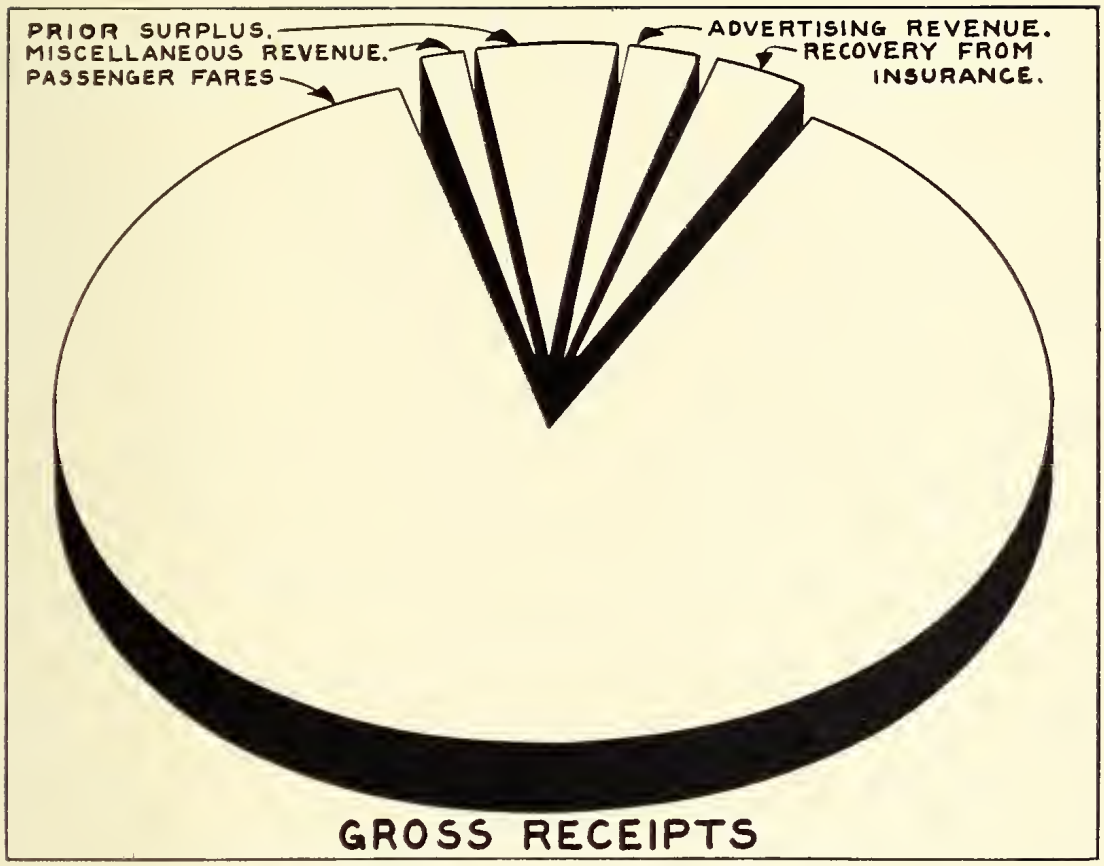
What We Received

Passenger Fares	$18,389,560
Advertising Revenue	127,234
Miscellaneous Revenue	49,925
Recovery from Insurance Carrier	182,581
Prior Year's Surplus	1,355,748
Total Receipts	$20,105,048

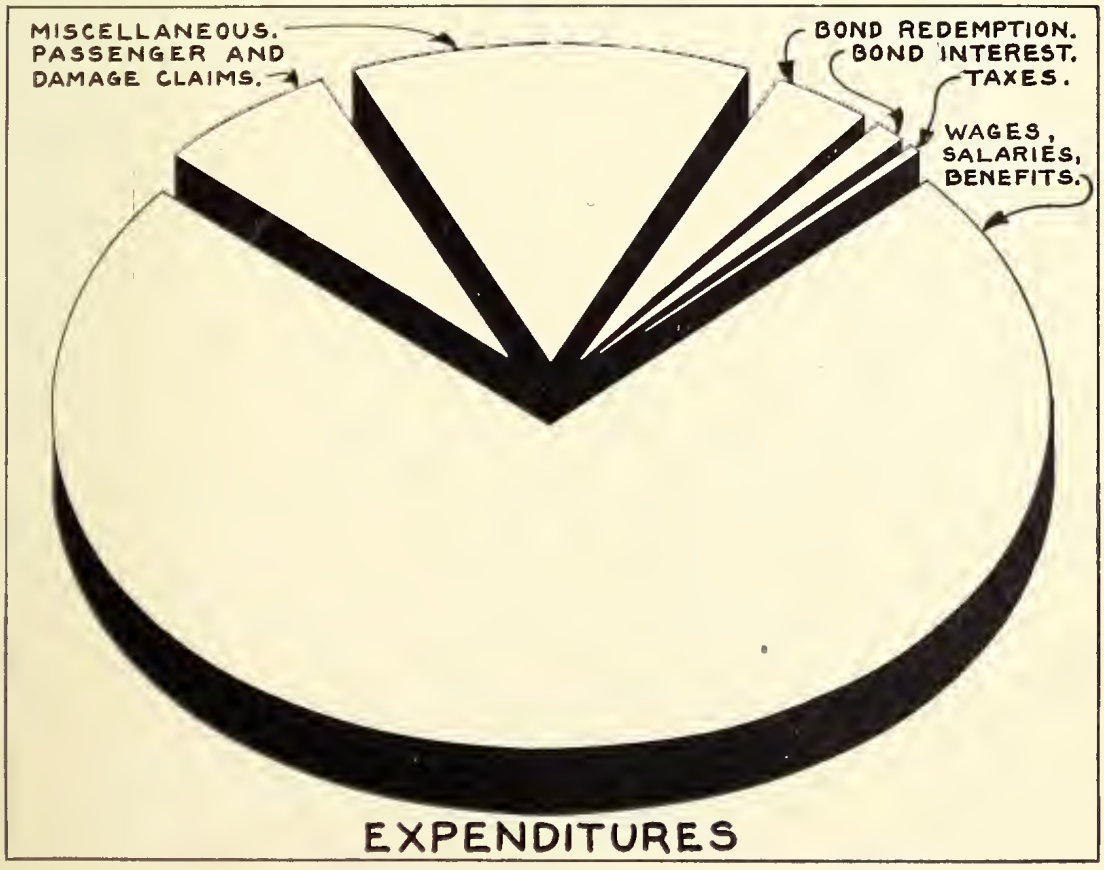
Where Money Went

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits	$13,703,804
*Miscellaneous	5,211,252
Taxes	6,572
Bond Interest	336,420
Bond Redemption	847,000
	$20,105,048

*Materials & Supplies	$1,997,162
Passenger & Damage Claims	1,392,754
Heat, Light & Power	743,433
Tire, Rental	359,707
Other	718,196
	$5,211,252



GROSS RECEIPTS



EXPENDITURES

MUNICIPAL RAILWAY OF SAN FRANCISCO

BONDED DEBT JUNE 30, 1950

	Authorized	Unissued	Retired	Outstanding	Dated
Municipal Railway (1910)	1,981,000		1,981,000		
Municipal Railway (1913)	3,500,000		3,200,000	300,000	12/1/13
1947 Municipal Railway Rehabilitation Bonds ($20,000,000)					
(Series "A")	6,500,000		868,000	5,632,000	2/1/48
(Series "B")	4,900,000		123,000	4,777,000	8/1/48
(Series "C")	3,500,000		90,000	3,410,000	3/1/49
(Series "D")	1,500,000			1,500,000	8/1/49
(Series "E")	550,000			550,000	11/1/49
Unsold)	3,050,000	3,050,000			
1947 Market Street Railway Refinancing Bonds	2,200,000	250,000	200,000	1,750,000	5/1/48
	27,681,000	3,300,000	6,462,000	17,919,000	

Published by

PUBLIC UTILITIES COMMISSION
OF
SAN FRANCISCO

Compiled by

Bureau of Public Service

SEAL OF THE CITY AND COUNTY
OF SAN FRANCISCO
ORO EN PAZ
HIERRO
EN GUERRA

ANNUAL REPORT——FISCAL YEAR 1950-1951

SAN FRANCISCO

PUBLIC UTILITIES COMMISSION

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU

•

WATER DEPARTMENT

BUREAU OF LIGHT, HEAT AND POWER

•

SAN FRANCISCO AIRPORT

•

MUNICIPAL RAILWAY

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

Honorable Elmer E. Robinson
Mayor of City and County of San Francisco
City Hall
San Francisco, California

My Dear Mayor:

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual report covering activities and operations for the period beginning July 1, 1950 and ending June 30, 1951.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management, maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway; the San Francisco Water Department; Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco Airport Department, and the Bureau of Light, Heat and Power. In addition there are three service bureaus comprising the Bureau of Accounts, Bureau of Safety and Personnel, and the Bureau of Public Service.

Detailed accounts of the activities and operations of these several departments will be found in the succeeding sections of this report.

The Commission held 52 regular meetings and one special meeting during the year, in the course of which 26 public hearings were conducted. It awarded 73 contracts for work costing $14,176,366.90 and approved 248 contract payments in the amount of $11,045,483.47.

The Commission adopted a budget for the year 1951-52 in the amount of $45,418,901.00 and a supplemental budget in amount of $121,941.00.

Respectfully submitted,

Philip F. Landis

PHILIP F. LANDIS
President
Public Utilities Commission

The Public Utilities Commission is appointed by the mayor for a term of four years. The terms of the members are staggered. There are five members of the commission which elects its own president and vice president.

ELMER E. ROBINSON
Mayor

SAM McKEE
Commission Vice President

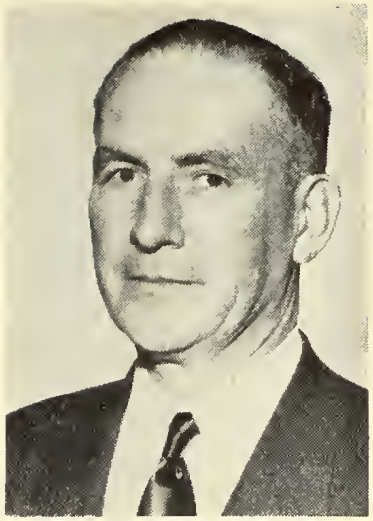
PHILIP F. LANDIS
Commission President

VICTOR S. SWANSON
Commissioner

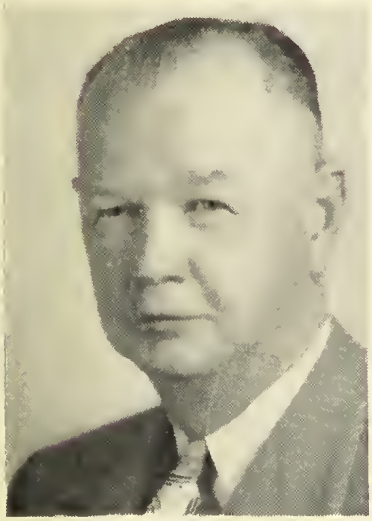
EDWARD B. BARON
Commissioner

DONALD A. CAMERON
Commissioner

The Manager of Utilities is appointed by the Public Utilities Commission and serves at its pleasure. He is the executive officer of the Commission. Utility department heads are appointed by the Manager of Utilities with the approval of the Commission.



JAMES H. TURNER
Manager of Utilities



GEORGE PRACY
Manager Water Department

WILLIAM H. SCOTT
Manager, Municipal Railway

A. O. OLSON
Manager, Hetch Hetchy

B. A. DEVINE
Manager, Light, Heat & Power

GEORGE DIXON
Manager, Airport

CHERRY RIVER VALLEY

[illegible] this valley the third impounding reservoir in the Hetch Hetchy System.

HISTORY OF HETCH HETCHY

In 1900 a clause was inserted in the San Francisco Charter which stated that "its public utilities shall be gradually acquired and ultimately owned by the City and County."

Impelled by this mandate to take steps toward the acquisition of a municipal water supply, the Board of Supervisors ordered a survey of possible sources which resulted in the recommendation that the City try to acquire the Tuolumne River watershed as a supply. In 1901, under the leadership of Mayor James Phelan, permission was sought to build dams and reservoirs at Lake Eleanor and Hetch Hetchy, both of which are in Yosemite National Park, under the jurisdiction of the Department of Interior.

Years were spent in vain attempts by the City to get the clear cut rights necessary, but successive administrations seemed to have different ideas from their predecessors. Finally the City went to Congress itself for the necessary rights, and, in 1913, the Raker Act was passed and signed by President Woodrow Wilson. This gave San Francisco what it wanted.

Interrupted only by World War I, the City then built the beginnings of the still incomplete Hetch Hetchy project. Lake Eleanor Dam was finished in 1918, and O'Shaughnessy Dam in 1923. It was raised to its present height in 1938. All the pipelines and the tunnels that were needed immediately, including the 25-mile-long Coast Range tunnel, were built. At last, in 1934, the first water from the Sierra Nevada mountains flowed to San Francisco.

FUNCTION AND PURPOSE

The long name — Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau—is a simple way to describe all the functions of this branch of the Public Utilities Commission. The "Hetch Hetchy," incidentally is a corruption of an Indian name, "Hatchatchie," identifying the long grass which formerly grew in the valley now used as the system's principal impounding reservoir.

In the first capacity, the bureau has full charge of the Hetch Hetchy Water Supply and Electric Power system, being responsible for the administration, engineering, construction work and operation and maintenance of the system. In the second, it performs engineering work for the Airport Department and the Municipal Railway, planning and supervising all new construction for those utilities and providing engineering service also in connection with maintenance and reconstruction of existing facilities.

The water supply function is, quite simply, that of wholesaler of water to the San Francisco Water Department. It collects and delivers the major share of the water distributed by the Water Department, which pays Hetch Hetchy for this service.

The power division sells the power generated to the various other municipal departments and miscellaneous customers.

Revenues from water and power sales, as well as from other City departments for engineering work performed, have made this bureau self-supporting since its creation in 1932.

HETCH HETCHY WATER SUPPLY

Production:

Extremely heavy precipitation from November 14 to December 15, 1950, caused the Hetch Hetchy reservoir to fill and overflow between December 3 and December 10, the first time this has happened since the system was built. The reservoir also filled and overflowed in the spring as usual.

The rainfall for the year at Hetch Hetchy was 49.54 inches, compared with a normal rainfall of 33.57 inches for this area. Lake Eleanor, another of the reservoirs in the Hetch Hetchy System, had a rainfall of 58.63 inches compared to the normal 41.46 inches.

While there was an ample supply of water to supply the needs of the Water Department for the year and to run the powerhouse at Moccasin Creek, the need for the now-building Cherry Valley Reservoir was forcefully demonstrated by Nature's behavior last fall. Under its agreements with the federal government and the Turlock and Modesto Irrigations Districts, San Francisco is entitled only to the "flood waters" on the Tuolumne watershed, with the normal stream flow going to the irrigation districts. But despite the heavy rainfall, San Francisco was able to store only slightly more water this year than it did the previous year when rainfall was below normal. There was no more storage space and the excess water ran downstream to contribute to the floods which ravaged parts of the San Joaquin Valley.

Construction:

Contracts for construction of the last 14 miles of the 47-mile San Joaquin Pipeline Number 2 were let in August, 1950 and work progressed on this job during the year. Since a 33-mile section of this line is already in use and providing sufficient water for the Water Department's needs, the job is not being rushed, but rather is carried on at times least inconvenient to normal delivery of water across the San Joaquin Valley. When the entire pipeline is completed and in use, the combined capacities of San Joaquin Valley Pipelines Number 1 and Number 2 will be in excess of 140 million gallons daily.

A lime treatment plant, built at Rock River for $63,708.18, was finished in December, 1950. This plant adds lime to the water flowing through the aqueduct to lessen the corrosive effect of the water on the iron and steel.

Timber platforms and earth fill at the upper portions of three shafts of the Coast Range Tunnel were removed during the year at a cost of $6,355.86. These were precautions taken in 1942 to guard against sabotage during World War II.

Seven cottages for use of employees were built during the year, one at Oakdale and six at the Moccasin Creek Powerhouse. Cost of these structures was $97,200.

The increase in the rate of delivery of water through the Hetch Hetchy Aqueduct in the San Joaquin Division made necessary an increase in the capacity of the Tesla Chlorinating Plant. This was accomplished for $6,355.86.

Cherry River Project:

Progress on the construction of Cherry Valley Dam, which will create a third major reservoir in the Hetch Hetchy system, was carried on fairly well during the fiscal year, although rising costs and an unusually heavy rainfall in November, 1950, impeded work to some extent.

The dam is estimated to cost around $13,000,000, with about $9,000,000 being provided by the federal government for the flood control benefits the dam will provide. The remaining $4,000,000 was approved by the electorate of San Francisco in 1949.

The entire 24-mile access road from the state highway near South Fork via Jones Point and Early Intake to the damsite is now under construction. The road, to be 18 feet wide, will have not more than a ten per cent grade at any point.

A ten-mile, 22 kv, wood pole power distribution line, extending from Early Intake to Cherry Valley damsite, is also under construction. This line will supply power for construction and operation purposes, and will also be used for telephone line. The water supply and sewage disposal systems for the construction camp are also under construction.

Engineering work at the damsite was greatly hampered by the unprecedented storm in November. Nearly 18 inches of rain fell in Cherry Valley in three days, causing the second largest flood of record in Cherry River. The storm washed out the only two bridges across Cherry River at the damsite and seriously damaged the entire 27-mile existing dirt road into Cherry Valley. A party of engineers with considerable City equipment was marooned in the valley by the storm and lived on meager rations for nearly a month until they could be evacuated.

The storm also hampered contract operations for auger drilling explorations in Cherry Valley, trapping the contractor's equipment in the valley for the winter. These explorations of the prospective borrow pit areas were continued in the spring and will be completed this fall. The explorations have proven the existence of adequate suitable material for constructing a rolled earth core for the dam.

Subsurface explorations of the rock at the damsite by diamond drilling have indicated a generally satisfactory foundation.

Basic designs for the principal elements of the dam were prepared and submitted to the Army Corps of Engineers for approval. Although formal approval has not yet been obtained, it has been informally approved.

Detailed plans and specifications for construction of the $1,000,000 diversion and outlet tunnel at the damsite are nearly complete and bids should be called for in the fall.

Major work on the detailed design for the dam will be carried on during the winter of 1951-52, coincident with laboratory tests of the earth core material and hydraulic model tests of the spillway and outlet works.

HETCH HETCHY POWER

One of the lesser known functions of the Hetch Hetchy System is the production of electric energy for municipal purposes. The City is not in the power business to compete with the private companies for residential sales, but, since it does have a water supply system with power potential, this force was put to work producing energy for street lights, running Municipal Railway vehicles and lighting public buildings. Since the City's generating capacity is limited, it is not possible to produce exactly the right amount of power for municipal needs at all times; hence, sometimes energy is purchased from or sold to the private power company. The private company also transmits the power to the City from the end of the Hetch Hetchy power line at Newark. For this, the company is paid a "Wheeling Charge."

During the fiscal year, the Hetch Hetchy plants generated 532,016,700 kilowatt hours of electric energy and purchased 2,597,122 kilowatt hours from the private company, making a total of 534,613,822 hours available. It was sold or used in the following manner:

Municipal Accounts	158,112,816
Modesto Irrigation District	79,776,000
Kaiser Aluminum and Chemical Corporation	40,596,000
Permanente Cement Company	122,230,816
Pacific Gas & Electric Company	73,083,267
Miscellaneous Customers	339,349
Losses and Unaccounted For	58,454,445
	534,613,822

HETCH HETCHY ENGINEERING

Municipal Railway:

Installation of overhead for trolley coach service was completed during the year for the No. 30, Stockton line, and the Nos. 1, 3 and 4 Sutter lines In January, construction was begun on the No. 47, Potrero-Van Ness trolley coach line.

A 2000 KW substation at West Portal was completed June 21, 1951. It supplies power to streetcars operating in the Twin Peaks Tunnel and to the portions of the K, L and M lines south of West Portal. The station is of the automatic mercury arc rectifier type and requires no operator. It has decreased operating costs in several ways, and has brought about a decrease in the electrolytic corrosion of the underground plant of the railway and other utilities.

The first stage of the remodeling of the Geary Headquarters was completed during the year, providing a new office entrance with elevators, space for the Personnel and Safety Department, as well as new locations for the Claims, Engineering and Timekeeping Departments. The Geneva Division headquarters was remodeled during the year to relieve cramped conditions in the platform men's area.

Waiting stations for the convenience of passengers were completed at West Portal, 14th Avenue and Quintara Street, and plans are completed for one at La Playa and Balboa stations.

Engineering work was done and plans readied for early start on reconstruction of tracks on Ocean Avenue, installation of new ladder track at Geneva Carhouse, and renewal of cable track on Mason Street, Columbus Avenue and Taylor Street.

Airport Engineering:

Biggest job underway during the year was paving of two runways at the airport, with $1,386,045 of work on the $2,595,055 job completed during this fiscal period.

An $87,526 firehouse and crew chief's building was completed in March, 1951. This provides necessary working room for field attendants, as well as ample space for the firemen and fire equipment.

Another important firehouse, located in the middle of the field in order to be close to the scene of any aircraft fires, is located in the same building housing the field lighting control equipment. This structure was just about complete at the end of the fiscal year at a cost of $177,400. These two firehouses will enable fire equipment to be located at two strategic locations on the field, making more possible very quick access to any fires. In aircraft fires, most of which involve the possibility of high octane gas explosions, a single minute may mean life or death to passengers.

Baggage handling facilities, enabling passengers to pick up their baggage in an area protected from the weather, were completed in December, 1950 at a cost of $36,741.

Other work included the installation of conduits, improvements for seaplane port area loading apron, constructing substation for power supply in domestic terminal, constructing entrance road for service building and other miscellaneous jobs.

Total cost of work done during the fiscal year at the airport was $1,738,255.24.

Miscellaneous Facts About Hetch Hetchy System

- The widely scattered outposts of the Hetch Hetchy System are linked by radio communications, so that personnel in different parts of the mountains, even when snowbound in the upper areas, can make contact with the main office at Moccasin Creek Powerhouse.
- Hetch Hetchy water is very "soft"; that is, it has only about ten parts of solid material per million parts of water. Such "soft" water is hard on steel pipes, causing corrosion. Chlorine and lime, in addition to purifying water, make such water less aggressive and less destructive to pipelines.
- The agreement between the federal government, the Turlock and Modesto Irrigation Districts, and the City and County of San Francisco for joint use of proposed Cherry Valley Dam is an example of great cooperation between different governmental agencies to achieve separate goals by a common facility, rather than by expensive duplicating structures.
- The flood which ravaged part of the San Joaquin Valley in the winter of 1950 would have been inestimably worse if the Hetch Hetchy System for impounding flood waters were not in existence.

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU
FISCAL YEAR 1950-51

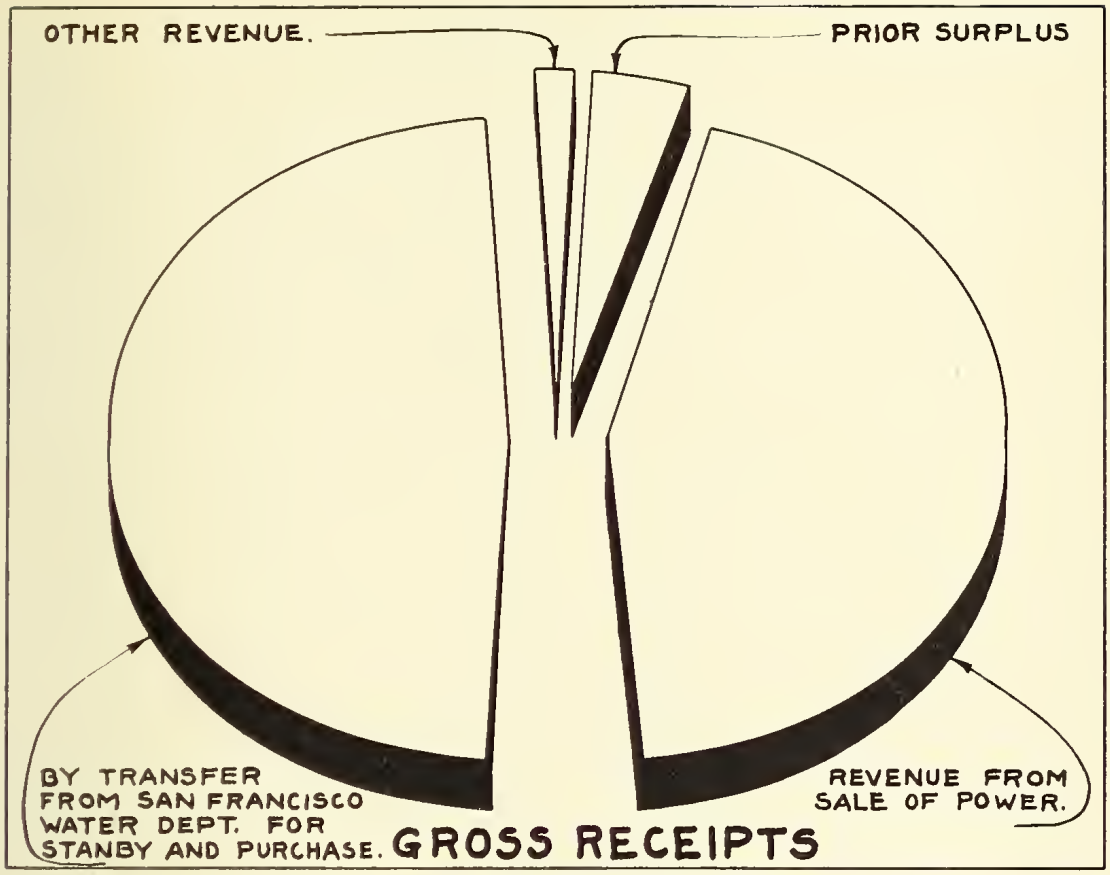
What We Received:

By Transfer from S. F. Water Dept. for Standby and Purchase	$3,669,014
Revenue from Sale of Power	3,439,372
Other Revenue	29,176
Prior Year's Surplus	320,990
	$7,458,552

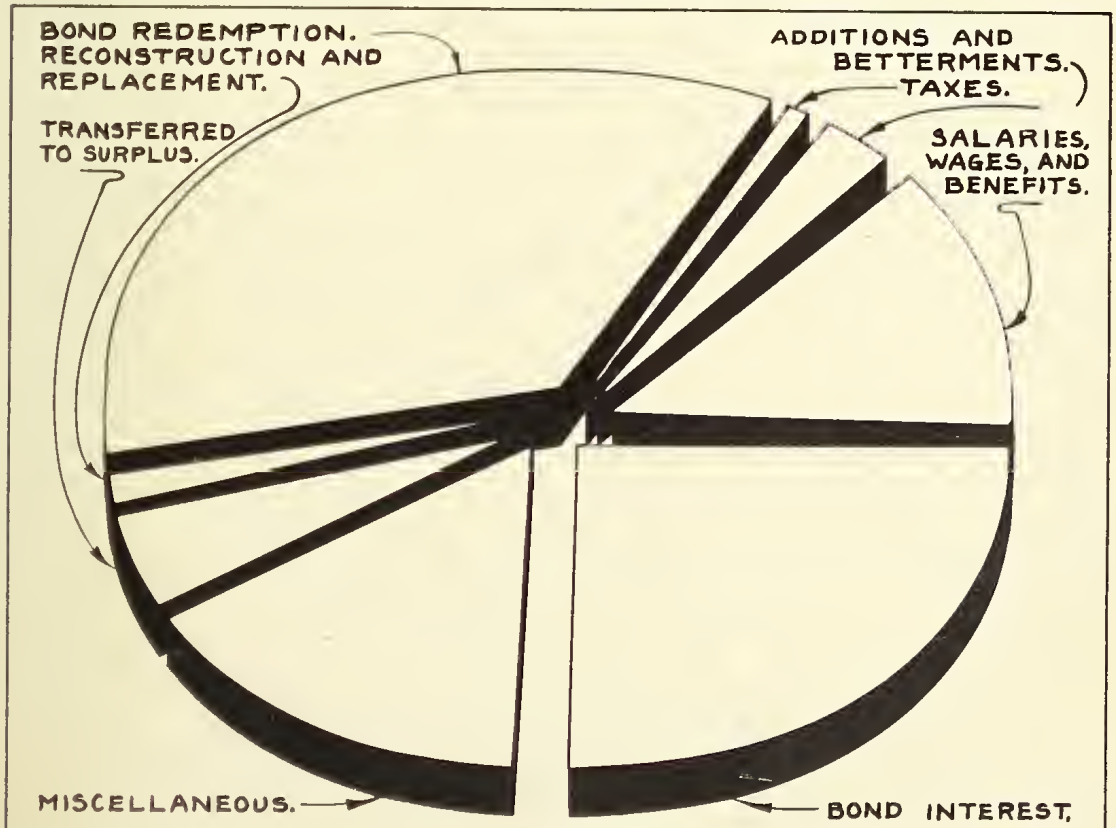
Where Money Went:

Salary and Wages Including Retirement Sickness and Industrial Compensation Benefits	771,404
*Miscellaneous	1,132,876
Taxes	17,581
Bond Interest	2,021,718
Bond Redemption	2,788,429
Additions and Betterments	233,959
Reconstruction and Replacement	94,149
	7,060,116
Unappropriated Revenue Transferred to Surplus	398,436
	7,458,552

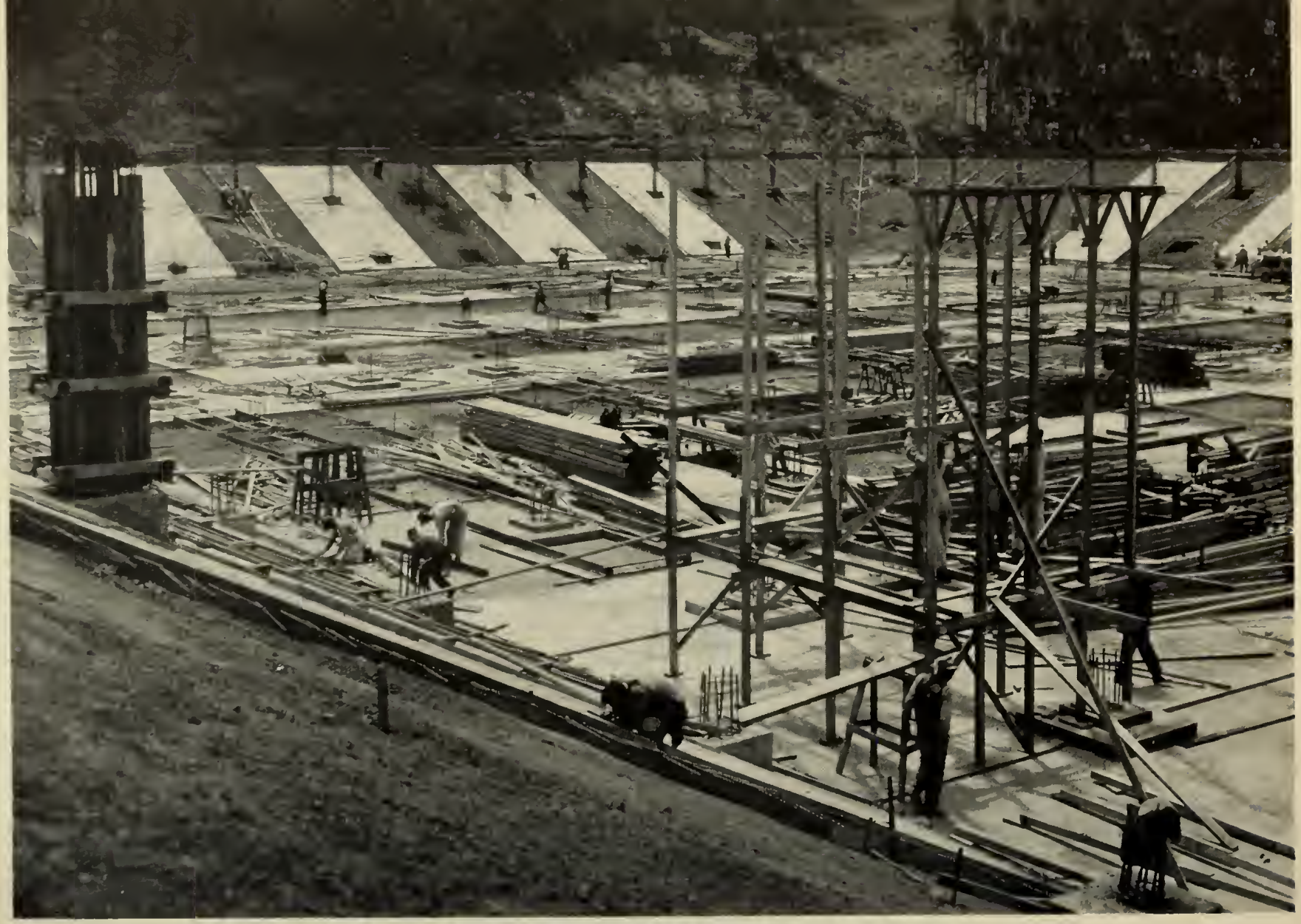
*Contractual Services	62,671
Material and Supplies	68,743
Water Rights and Damage Claims	32,134
Fee to U. S. Government	30,000
Purchase of Power for Resale, Service Charge and Rental of Transmission Line	937,540
Insurance	1,788
	$1,132,876



GROSS RECEIPTS



EXPENDITURES



SUTRO RESERVOIR

This big new reservoir will increase water storage capacity within the City and provide better water pressure for many users.

BRIEF HISTORY OF WATER DEPARTMENT

March 3, 1950, marked the twenty-first anniversary of the municipally owned San Francisco Water Department. It was on that day in 1930 that the City took over the private Spring Valley Water Company which had served San Francisco as its major water works since 1865.

The purchase of the private company by the City for $41,000,000 culminated many years of effort on the part of citizens to buy out the company with which many people were dissatisfied.

In the early Gold Rush days San Francisco had obtained its water from wells, small local streams, by barge from Sausalito and, when population continued to outstrip the supply, the Spring Valley Company branched out for new sources in San Mateo County. Later this company developed sources in the East Bay. All of these sources, with the necessary reservoirs and transmission lines, of course became part of the San Francisco Water Department in 1930. Then, in 1934, the Department's supply was substantially increased by the addition of Hetch Hetchy water which, today, provides over 60 per cent of the total supply.

Since its beginning, the Water Department has been completely self-sustaining, requiring no tax support. In twenty-one years while everything else has gone up in cost, the Department has reduced residential rates until they are now ten per cent lower than they were under those of the Spring Valley Water Company.

PRODUCTION AND TRANSMISSION

For the first time in nine years, rainfall in the Water Department's catchment areas on the San Francisco Peninsula and in the East Bay was above normal, with consequent increased runoff from watershed areas. Because of this greater runoff in local areas, the surface storage was greater than at any time since April, 1941. Despite these fortunate circumstances, it was still necessary to draw the maximum quantity possible from Hetch Hetchy during the year, averaging 77.4 million gallons daily.

Total amount of water used during the year was 38,751 million gallons, from the following sources:

Local Production	10,515 million gallons
Hetch Hetchy Sources	28,236 million gallons
Total	38,751 million gallons

This draft on all sources was necessary to meet consumption requirements for the year which averaged 105.8 million gallons daily, an increase of 3.1 million gallons daily over the preceding year.

The present transmission capacity from Peninsula reservoirs into San Francisco is inadequate to meet continually growing consumption, and another major transmission line is being constructed. About half of this project is done or has been financed, but financing has not yet been provided for the last half. This is a "Must" on the construction program for the very near future.

WATER CONSUMPTION AND SALES

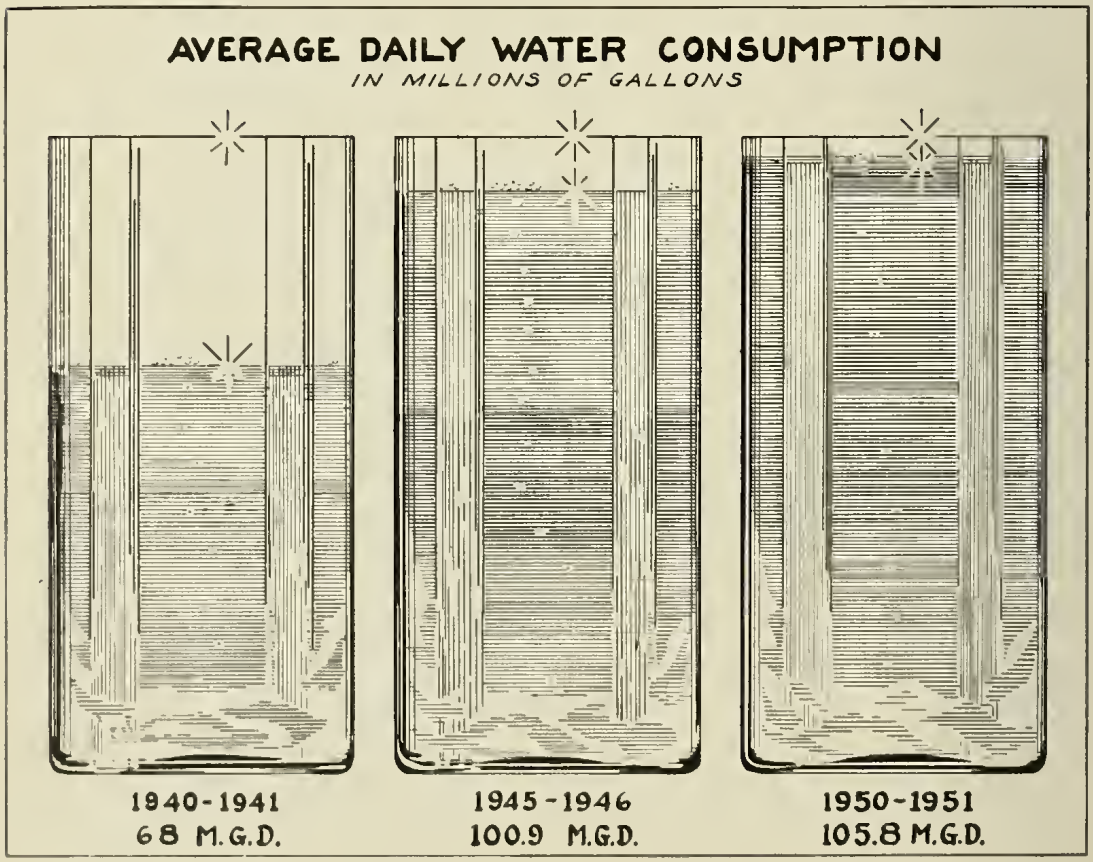
Water consumption for the entire system during the year averaged 105.8 million gallons daily, an increase of 3.1 million gallons daily over the preceding year. Of this total, 82.8 million gallons daily were used in the San Francisco consumption area and the balance of 23 million gallons daily was used in the suburban areas.

Peak demand on the system occurred June 1, 1951 when 147.7 million gallons were used on the one day, as compared to the previous all time peak of 139.1 million gallons on June 29, 1950. Lowest demand was on December 25, 1950 when 77.3 million gallons were used. This compares to a low of 71.8 million gallons April 9, 1950.

Water sales for the year amounted to $11,402,744. This includes water delivered to municipal departments which do not pay, but the amount they would have paid, $603,910, is included in the total for bookkeeping purposes. This amount is not included in the financial statement at the end of this section, since the statement is on a cash basis.

Accounts within San Francisco made up 81.9 per cent of total sales, with suburban accounts comprising the remaining 18.1 per cent. An increase in water rates in the fourth block, or what might be called the "wholesale rate" applying to the purchase of very large amounts, accounted for an increase of $228,340 in sales outside the city.

During the year 2,401 new domestic services were inaugurated.



CITY DISTRIBUTION

Since San Francisco did not experience any prolonged hot spells during the year, local storage was always sufficient to meet daily requirements; hence, there were no "no water" complaints. Most complaints were of "poor pressure," and in about 175 instances the Water Department replaced old, stopped-up, service pipes with new pipe. In a similar number of instances, householders were advised that the pipe inside the house was simply too small to meet the demand.

When Sutro Reservoir is completed next year, it is hoped the critical storage situation in the Stanford Heights Reservoir District will be relieved.

Plans are being prepared for the development of the property north of Portola Drive and west of Twin Peaks. Diamond Heights, south of Portola Drive and east of O'Shaughnessy Boulevard, is also marked for development. Both of these areas draw from Forest Hill Tanks which will be too small to meet this new demand. Consequently, the Water Department is planning a new resorvoir, to be located just south of Palo Alto Avenue and west of Twin Peaks, which will have a 15 million gallon capacity.

Projects urgently needed at this time, in addition to the completion of Sutro Reservoir and the small reservoir near Twin Peaks, include Mount Davidson tank, Balboa Reservoir, and some 107,100 feet of new feeder mains to be laid in various districts.

Several 12″ cast iron feeder mains were laid during the year, as well as routine extensions of 4″, 6″ and 8″ mains.

CONSTRUCTION

Construction of the thirty-three mile Bay Division Pipeline No. 3 was progressing on schedule, with completion scheduled for about January 1, 1952. This line, unlike No. 1 and No. 2 which go across the bay, extends around the south end of the bay in order to better serve present and future customers in that rapidly expanding area.

The $1,019,935 contract for the concrete lining and roofing of Sutro Reservoir was awarded December 5, 1950 and the job should be done by the end of 1951. The contract for the mains serving this reservoir are to be let later. When finished, Sutro Reservoir will add 32 million gallons to the city's water storage capacity.

Contract plans are almost ready for a new pumping station to be located on the southeasterly shore of Lake Merced. This will pump water from the now-building Sunset Supply Line (connecting the city with the Peninsula reservoirs) and pump it into Sunset and Sutro Reservoirs. In an emergency, such as occurred in 1906, this plant could pump water from Lake Merced at the rate of 45 million gallons daily for 40 days, thereby providing plenty of time for the repair of damaged supply lines from the Peninsula.

The Sunset Supply Line, with the section from Sunset Reservoir to Baden already complete, is progressing. Engineering is being done on another section for which there are funds, while the last election is not yet financed.

There were also more than fifty routine contracts awarded.

WATER PURIFICATION

As usual, water treatment practices continued throughout the year and all water supplied to consumers complied with the bacteriological standards established by the U. S. Public Health Service for drinking water purity.

Chlorination is the process used for disinfection, and the water is never exposed to contamination (such as an open reservoir) between the time of the last chlorination and the consumer's service.

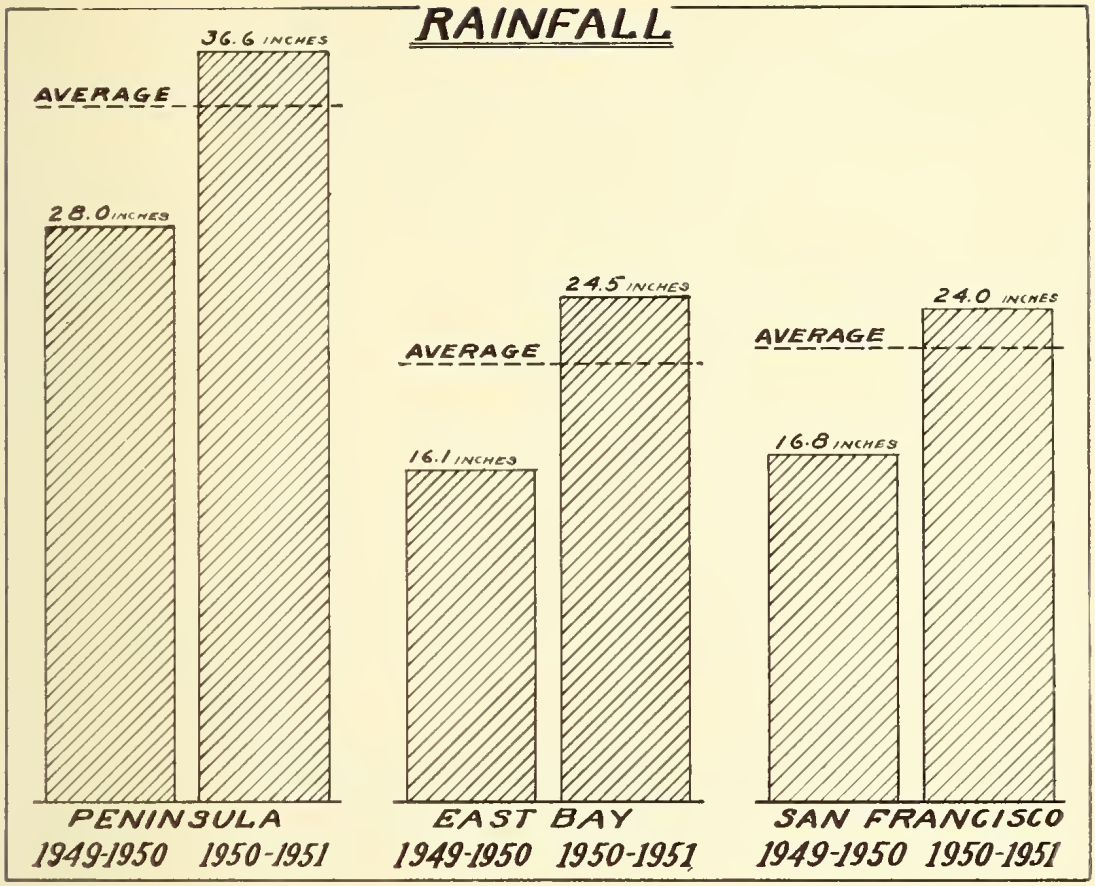
Heavy rains and consequent heavy runoff in the storage and impounding areas stimulated growth of algae (tiny, harmless organisms which make water appear green), but this was controlled by the use of copper sulphate in the reservoirs.

Sanitary inspections of watersheds were made to make certain these areas were not being polluted. Water Department engineers and representatives of the U. S. Public Health Service and Yosemite National Park inspected Tuolumne Meadows in September and no evidence of sewage pollution to the headquarters of the Hetch Hetchy supply was found. Because of increased number of visitors to this area, however, the Park is preparing additional facilities.

The Sanitation Department immediately investigated several complaints of illness wherein the consumer blamed the water, but laboratory tests once more proved the water was not responsible. There has never been a single instance in the twenty-one years of Water Department history where an illness has been traced to the water taken by consumers.

PURITY PROTECTED

Purification Division makes certain that water more than meets every standard for drinking purposes.



Miscellaneous Facts About Water Department

• "Hardness" of water depends upon the amount of solid material in the water. San Francisco water is comparatively "soft," running about 60 parts solid material to a million parts water. Even water supplies that are artificially softened usually run an 80 parts per million ratio.

• The Water Department used 889,779 pounds of chlorine during the year.

• An ordinance has been proposed which, if enacted, will regulate the size of the service, meter and house piping in advance of construction. This would eliminate complaints of "poor pressure."

• The remodeled and retooled meter repair shop and testing laboratory has doubled its output without additional personnel. The accuracy of the repaired meter is now equal to that of a new meter in most instances.

SAN FRANCISCO WATER DEPARTMENT
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1950-51

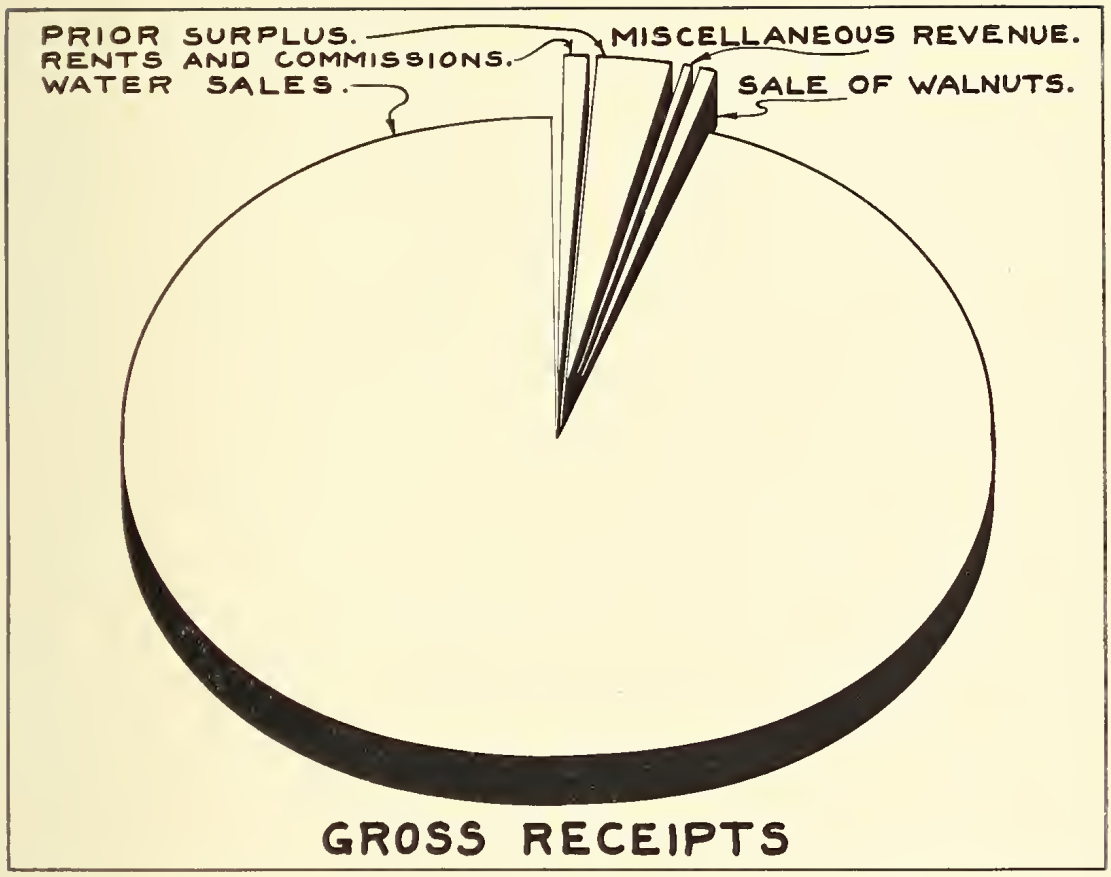
What We Received:

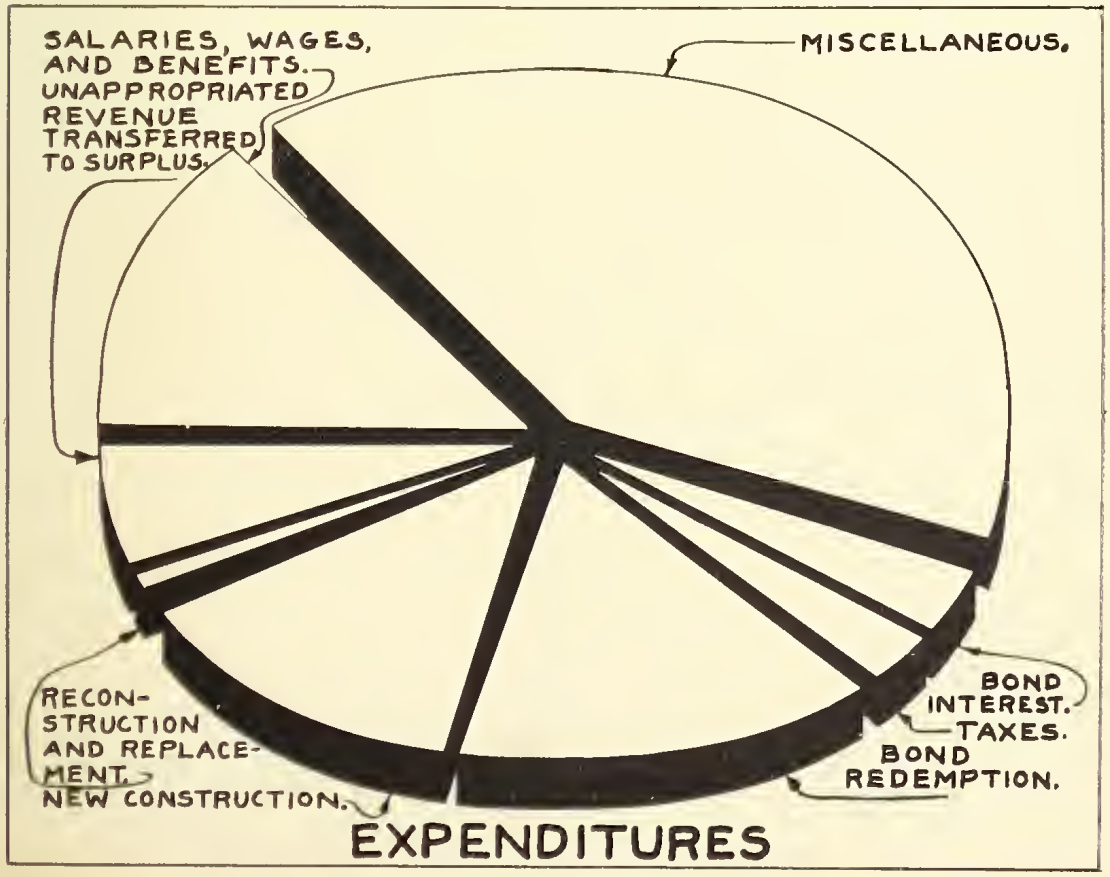
Revenue from the Sale of Water	$10,798,834
Revenue from the Sale of Walnuts	28,232
Rents and Commissions	179,401
Miscellaneous Revenue	13,619
Prior Year's Surplus	477,325
TOTAL RECEIPTS	$11,497,411

Where Money Went:

Salaries, Wages, Including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 1,640,656
*Miscellaneous	4,272,377
Taxes	491,302
Bond Interest	1,109,610
Bond Redemption	1,928,042
New Construction	1,357,490
Reconstruction and Replacement	54,577
TOTAL EXPENDITURES	$10,854,054
Unappropriated Revenue Transferred to Surplus	643,357
	11,497,411

*Material and Supplies	$ 228,302
Contractual Services	417,901
Standby Charge and Purchase of Water	3,575,046
Other Expenses	51,128
	$4,272,377


PRIOR SURPLUS.
RENTS AND COMMISSIONS.
WATER SALES.
MISCELLANEOUS REVENUE.
SALE OF WALNUTS.
GROSS RECEIPTS


SALARIES, WAGES, AND BENEFITS.
UNAPPROPRIATED REVENUE TRANSFERRED TO SURPLUS.
MISCELLANEOUS.
RECON-STRUCTION AND REPLACE-MENT.
NEW CONSTRUCTION.
BOND INTEREST.
TAXES.
BOND REDEMPTION.
EXPENDITURES

BUREAU OF LIGHT, HEAT AND POWER

History and Function:

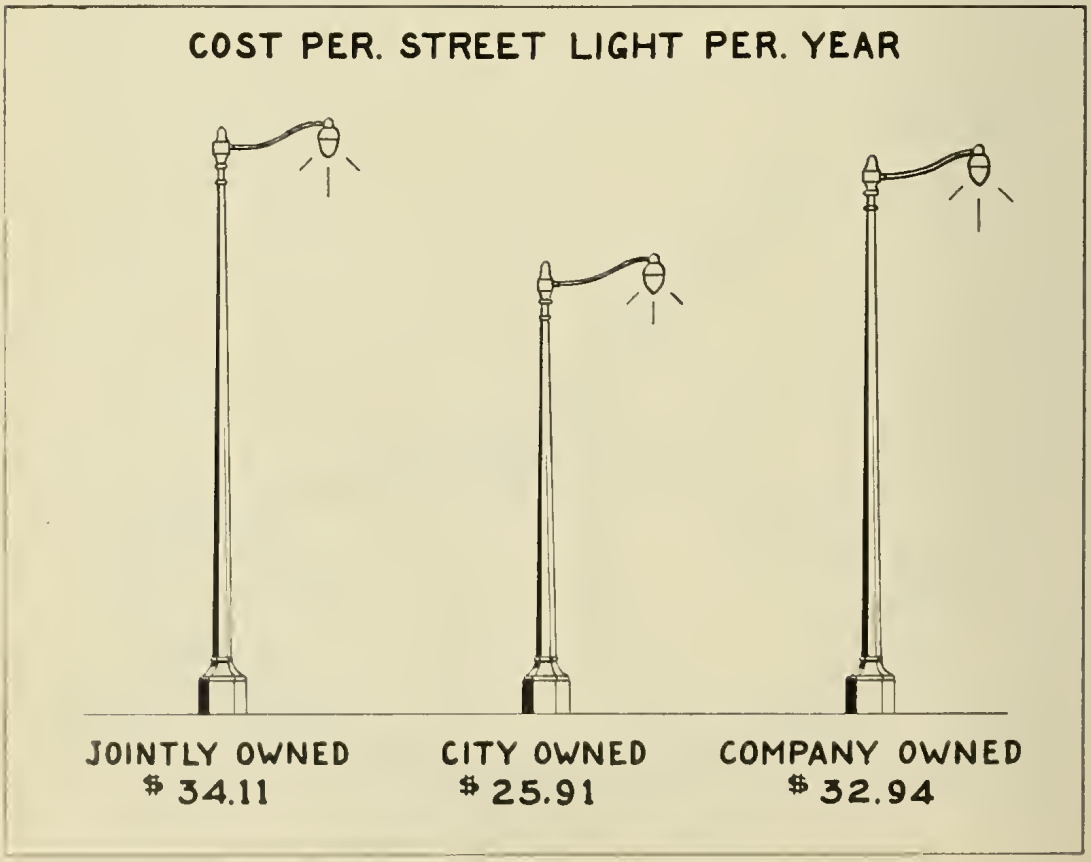
The functions of this Bureau include the design, construction and operation of the street lighting system, the purchase of utility services for all departments of the City and the furnishing of heat and illumination engineering services to all City departments.

Prior to 1932, when the present City Charter became effective, the city street lighting problems were handled by the Board of Supervisors, while each individual department handled its own utility bills. Under the new charter, these functions are consolidated in this Bureau.

Since that time, City-owned lights have increased from 934 to 6,101.

In keeping with the Charter intentions, the City has gradually acquired ownership of street lights by selecting various arterials that were in need of new lighting and doing the job. Thus the number of lights owned by the Pacific Gas and Electric Company is reduced and the City-owned lights increased. This results in lower operating costs, as the cost per year for privately-owned lights is $32.94, as compared to $25.91 for those owned by the City.

The Bureau operates in close cooperation with the Police Department in installing so called "Traffic Safety Lights" to reduce the hazards at certain locations.



Street Light Operations:

During the year, 611 new street lights were installed in the various districts throughout the City.

At the close of the year, 27,031 lights were in service, 2,109 being jointly owned with the Pacific Gas & Electric Company, 18,821 wholly owned by the company, and 6,101 wholly owned by the City.

Expenditures for street lighting operations during the year totaled $865,509.42. This total includes operation and maintenance costs for all lighting equipment in streets, parks, viaducts, tunnels and underpasses. The increase over last year's total of $853,744.94 was due to opening of the Parkmerced and Stonestown subdivisions, which added 294 new City-owned lights to our operation and maintenance cost, two new automobiles, increased cost of damages to lights, and cost for stock and office equipment.

Two very bad storms during the year caused an unusual number of street lights to go out temporarily, but the brighter side is that the City does not have to pay the PG&E for the time the lights are out. During the year, the Police, interested citizens, inspectors of this Bureau reported a total of 51,388 lights as being out of service, resulting in a saving of $4,523.13 in outage credits. There were only 27,545 lights reported out of service the previous year.

Engineering, Construction:

Major streets on which new lights were installed this fiscal year are:

Trumbull Street, Mission Street to Alemany Boulevard.

Lincoln Way, Arguello Boulevard to 48th Avenue.

Stockton Street Tunnel (fluorescent lights).

Eddy, Ellis and O'Farrell Streets, Mason Street to Van Ness Avenue.

Irving Street, 7th Avenue to 9th Avenue.

Alemany Boulevard-Junipero Serra Viaduct.

The Bureau furnished engineering and inspection service to many City departments not staffed to do this type of work.

Gas and Electric Supply:

Some 7,020,317 cubic feet of natural gas, 1,922,000 pounds of steam, and 125,616,778 kilowatt hours of electricity were used for municipal purposes, exclusive of electric energy used for street lighting. The City paid $299,615.51 to the Pacific Gas and Electric Company for gas and steam, and the various municipal departments paid $1,430,194.49 to Hetch Hetchy for electricity. The overall use of electricity for municipal purposes shows a decrease of 4.4 per cent as compared to 1949-50, due mainly to substantial decreases in energy used by the Municipal Railway and Water Department.

BUREAU OF LIGHT, HEAT AND POWER
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1950-51

What We Received:

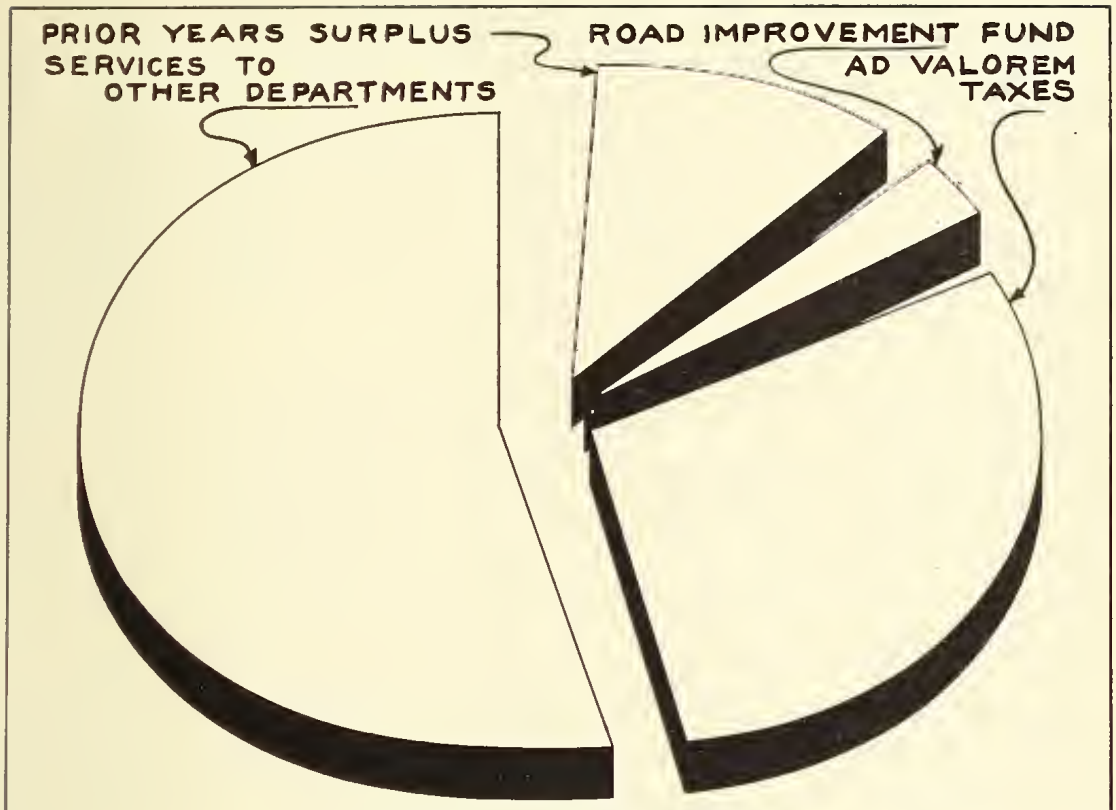
By Transfer from Other Current Funds for Electricity and Gas — Interdepartmental	$1,635,397
Special Road Improvement Fund	26,000
Ad Valorem Taxes	920,391
Prior Year's Surplus	305,892
	$2,887,680

Where Money Went:

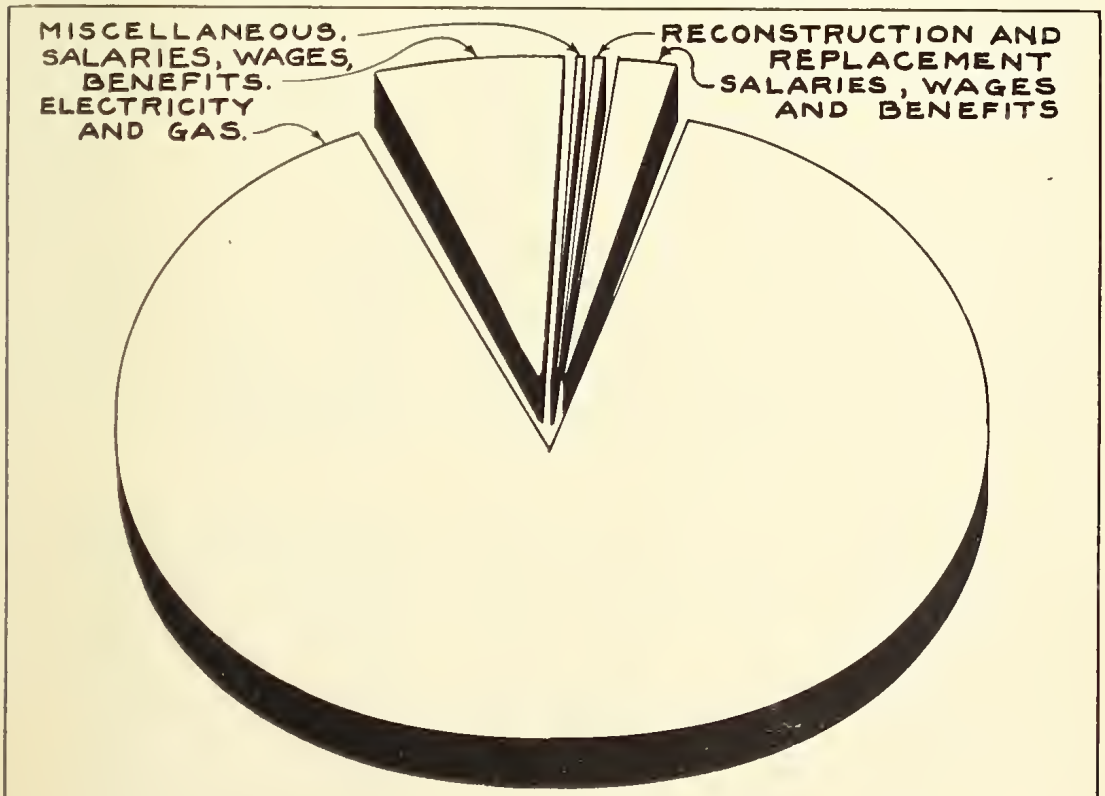
Salaries and Wages including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 89,227
*Miscellaneous	12,443
**Electricity and Gas for Street and Public Building Lighting and Other City Departments	2,513,309
New Construction	259,226
Reconstruction and Replacement	13,475
	$2,887,680

*Contractual Services	$ 1,235
Maintenance and Repair of Structures	9,358
Material and Supplies	1,742
Insurance	108
	$ 12,443

**Electricity and Gas — Interdepartmental	$1,635,397
Public Building Lighting	35,325
Lighting of Public Streets	842,587
	$2,513,309



GROSS RECEIPTS



EXPENDITURES

SKY TRAVELERS

Here are different types of aircraft serving San Francisco Airport. Top row: United Airlines Stratocruiser; TWA Constellation; Southwest Airways DC-3; Western Airlines Convair. Middle row: American Airlines DC-6B; British Commonwealth Pacific DC-4; Canadian Pacific "Canadair 4"; Philippine Airlines DC-6. Bottom row: Pan American Stratocruiser; California Central's Martin 202; Slick Airway's DC-6A, and Flying Tiger's Curtis Commando.

SAN FRANCISCO AIRPORT

Brief History:

From the earliest days of aviation, San Francisco and the Bay Area have played an important role in the development of the airplane and its uses. Professor John J. Montgomery, who, in 1883, was the first man to achieve sustained and controlled flight, was educated and began his scientific investigations at St. Ignatius College here. From a sand dune field down near the present San Francisco Airport, a plane rose in 1911 from which Army Lieutenant Myron Crissey dropped the first aerial bomb. And in the same year, an air-minded mechanic, Eugene Ely, landed and took off successfully from a naval vessel anchored in San Francisco Bay. This was the first step in what developed into Naval air "carrier" aviation.

San Francisco's airport was authorized in 1926, and, in 1927, land was leased at the site of the present field, this site having been selected after a thorough meteorological survey to find a location reasonably close to the city with the best weather. The airport did not fare too well in its early years because of a series of bad breaks, but, in 1932, it became the charge of the newly-formed Public Utilities Commission and it started to attract more business.

From 1932, it has been a race in which the San Francisco Airport, as well as all other airports, tried to keep pace with the strides being made in the development of aircraft.

The airport is now the hub of an aviation industry which brings about $50,000,000 annually into the commercial channels of this area.

General:

Benefiting from a half year of operation under a new schedule of rates and charges, as well as from increased traffic, airport revenues reached $796,605 for the year. This compares with an expenditure of $716,357 for all operations of the airport, excepting depreciation, bond interest and redemption.

The role the airport will play in the event of a Civil Defense emergency has been assigned by the Civil Defense authorities and airport personnel have been instructed in the various assignments.

In December, 1950, a sub-committee of the National Security Resources Board came to the San Francisco Airport for a survey of its facilities, one of thirteen such surveys made in the United States.

Some of the features which determine the strategic importance of the airport to the United States as a Nation follow:

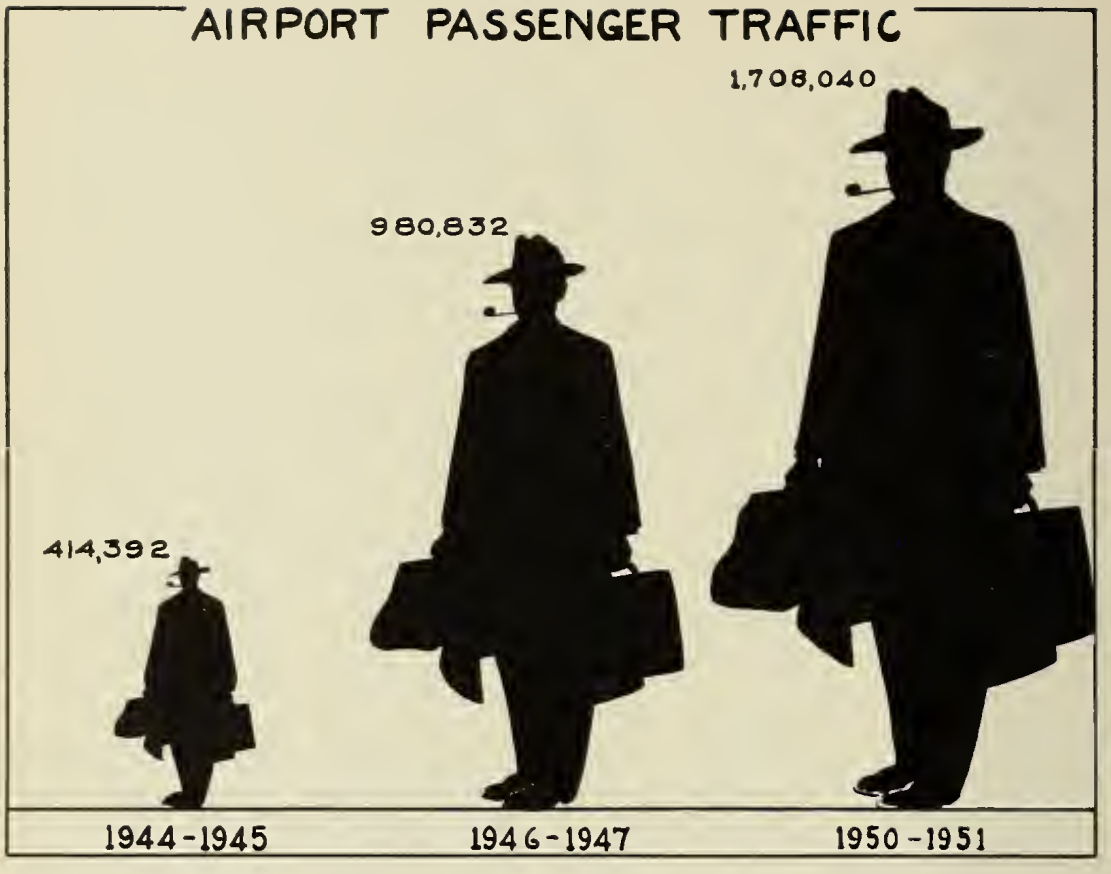
A. Closest Pacific Coast airport to Hawaii.

B. Runways and taxiways laid out to accommodate maximum traffic load.

C. Airport able to handle largest aircraft with full load.

D. Excellent weather conditions permit dependable schedules.

E. Many of the commercial aircraft used in Korean air lift are maintained at facilities on San Francisco Airport.



Traffic:

Airplane travel no longer is reserved for emergency transportation only. For millions, it is the customary and routine way of getting from one place to another. Once again, the last fiscal year set a new record for passengers using the San Francisco Airport, with 1,708,040 people passing through. This is a 30.6 per cent increase over the 1,307,307 comparable figure for the previous fiscal year.

Airline trips (arrivals and departures) jumped to 90,794 for the year, a 13.8 per cent increase over the 79,777 trips for the previous year. With such large aircraft in use today, the number of trips need not increase so much in order to handle a greatly increased number of passengers.

Air mail handled at the field jumped by 58.3 per cent, primarily because of the Korean War. This year the total was 23,636,209 pounds, as compared to 14,929,703 the previous year. Air Express was up from 7,023,402 pounds to 8,342,420 pounds.

Air Freight, a business which has developed amazingly since the end of World War II, climbed up to 35,503,778 pounds for the year. This freight is made up of all kinds of goods from flowers to clothing.

San Francisco Airport, because of its tremendous growth recently, now varies between fourth or fifth in the nation in passengers handled. New York, Chicago and Washington, D. C. handle the most traffic.

SAN FRANCISCO AIRPORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATIONS

REVENUE PASSENGER ACTIVITIES

	Revenue Passengers In and Out		% Increase	Revenue Passengers On and Off		% Increase
	1949-1950	1950-1951	Decrease	1949-1950	1950-1951	Decrease
July	112,253	155,411	38.4	99,998	123,742	23.7
August	116,651	160,498	37.6	100,978	125,747	24.5
September	123,701	151,805	22.7	105,679	118,940	12.5
October	115,521	147,988	28.1	99,683	115,229	15.6
November	96,934	118,711	22.5	82,190	95,118	15.7
December	92,475	124,575	34.7	73,428	96,284	31.1
January	84,879	128,530	51.4	68,756	98,702	43.6
February	86,037	120,235	39.7	70,026	93,581	33.6
March	98,763	152,959	54.9	81,357	120,566	48.2
April	107,497	143,522	33.5	84,808	113,583	33.9
May	123,942	152,227	22.8	99,510	118,975	19.6
June	148,654	151,579	2.0	118,177	119,587	1.2
	1,307,307	1,708,040	30.7	1,084,590	1,340,054	23.6

SAN FRANCISCO AIRPORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATIONS

AIR MAIL AND AIR EXPRESS-FREIGHT

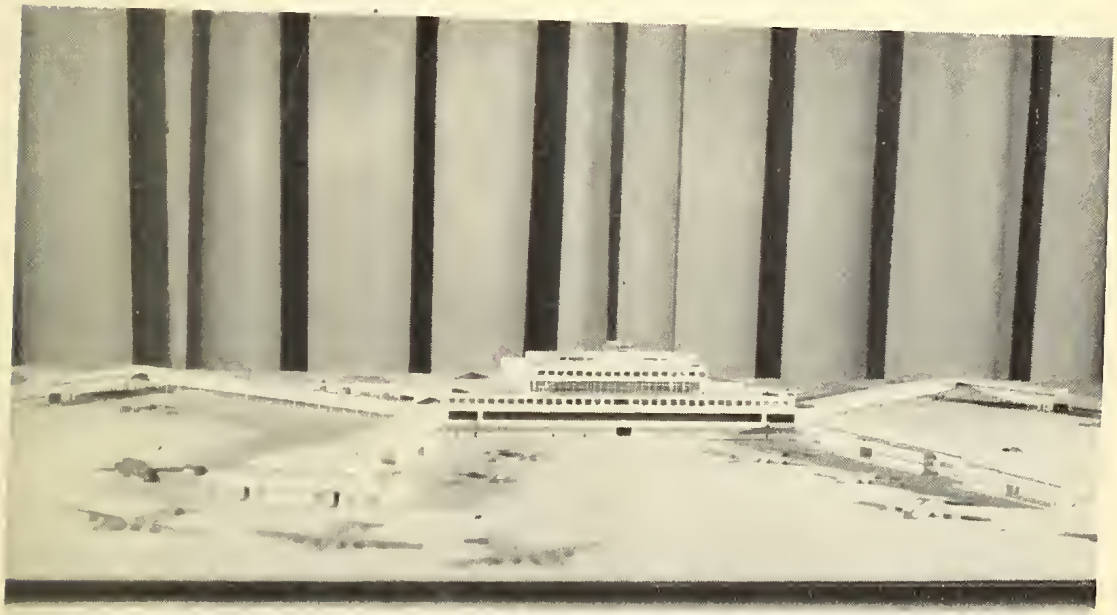
	Pounds of *Air Mail*		% Increase	Pounds of *Air Express-Freight*		% Increase
	1949-1950	1950-1951	Decrease	1949-1950	1950-1951	Decrease
July	1,097,204	1,247,950	13.7	2,425,823	4,066,848	67.6
August	1,131,359	1,423,077	25.8	3,267,873	4,254,106	30.2
September	1,106,978	1,475,011	33.2	3,092,288	3,944,419	27.6
October	1,160,465	1,627,567	40.2	2,993,435	3,890,494	30.0
November	1,212,466	1,779,357	46.8	2,579,508	3,615,270	40.2
December	1,955,519	2,681,673	37.1	3,091,766	3,847,217	24.4
January	1,142,783	1,898,650	66.1	2,283,211	3,067,260	34.3
February	1,088,097	2,011,225	84.8	2,439,172	3,694,704	51.5
March	1,244,847	2,332,733	87.4	2,798,049	3,729,776	33.3
April	1,229,016	2,092,629	70.3	2,736,471	3,076,245	12.4
May	1,323,292	2,948,723	122.8	3,353,119	3,679,645	9.7
June	1,237,677	2,117,614	71.1	2,969,965	2,980,214	.3
	14,929,703	23,636,209	58.3	34,030,680	43,846,198	28.8

SAN FRANCISCO AIRPORT
AIRCRAFT MOVEMENTS

	AIR CARRIER		% Increase	ITINERANT		% Increase	LOCAL		% Increase	TOTAL		% Increase
	1949-50	1950-51	Decrease	1949-50	1950-51	Decrease	1949-50	1950-51	Decrease	1949-50	1950-51	Decrease
July	7777	7223	– 7.1	2262	1926	–14.9	2455	1862	–24.2	12494	11011	–11.9
August	6991	7840	12.1	1956	1885	– 3.6	2252	2045	– 9.2	11199	11770	5.1
September	6502	7505	15.4	1771	1649	– 6.9	1943	2224	14.5	10216	11378	11.4
October	6665	7103	6.6	1847	1472	–20.3	2368	1624	–31.4	10880	10199	– 6.3
November	6702	6883	2.7	1466	1051	–28.2	2009	1486	–26.0	10177	9420	– 7.4
December	6442	6899	7.1	1129	870	–22.9	1468	1927	31.3	9039	9696	7.3
January	6676	7149	7.1	1088	849	–12.8	1803	2083	15.5	9567	10181	6.4
February	6017	6555	8.9	1057	1391	31.6	1628	2867	76.1	8702	10813	24.3
March	6409	8402	31.1	1567	1606	2.5	2014	2855	41.8	9990	12863	28.8
April	6302	7778	23.4	1598	1457	– 8.8	1470	2147	46.1	9370	11382	21.5
May	6627	9561	44.3	1623	1720	6.0	1634	2640	61.6	9884	13921	40.8
June	6667	7896	18.4	1621	1680	3.6	1808	1888	4.4	10096	11464	13.5
	79777	90794	13.8	18985	17656	– 7.0	22582	25648	12.2	121614	134098	10.3

NEW PASSENGER TERMINAL

Scale model of terminal now being constructed at Airport, showing entrance side.



FIELD SIDE

This is how it will look to passengers arriving on planes at new terminal.

New Terminal Plans:

May 29, 1951 bids were opened for the construction of the new passenger terminal for the airport. Clinton Construction Company of San Francisco was low bidder with a bid of $6,754,000. This was for a six story building, but did not include the concourses which will be contracted for at a later date. This latter construction, however, will be appropriately timed so that completion of building and concourse will be coincidental.

The new building will have about 250,000 square feet of floor space and be modern in every way. An outstanding feature will be the vertical separation of incoming and outgoing traffic. Those boarding aircraft will use the first floor, while those disembarking from aircraft will use the ground floor. There will be ample space for all sorts of service businesses for which there is passenger demand. These will include restaurant, beverage services, barber shops, florists, bookstores, etc.

The contract for the new building called for completion 500 days after the contract certification, but this time may have to be extended because of severe shortages of material. The National Production Authority has authorized critical materials for this construction, after strong pleas for this allocation was made by the Civil Aeronautics Administration, the Military and, of course, the Public Utilities Commission.

The terminal space available in the new structure will produce additional revenue which will make the airport progressively more self sufficient.

Value of Airport:

In addition to its tremendous value to this community as a transportation service, the San Francisco Airport is the center of the aviation industry in this area, an industry that is now among the top three in size and payroll.

There are some 6,000 people employed by the various private companies or allied businesses at the field. The payroll is now about $26,000,000 annually. In addition, these businesses spent between twelve and fifteen million dollars each year for goods and services. Then, there is the money spent by visitors to this area who would not have come if it were not for the speedy travel possible through aviation. For example, many two-week vacationers come to San Francisco from the East Coast. Obviously, this trip would not have been practical by any other means of transportation.

Altogether, it is conservatively estimated that the aviation industry centered at San Francisco Airport brings in around $50,000,000 in new money each year. This money filters down to every walk of life, making everybody a little more prosperous.

When the new passenger terminal is put into service, the airport no doubt will attract even more allied aviation industry, so that the value of the San Francisco Airport to its owners, the San Francisco taxpayers, will continue to grow each year.

Field Construction:

The last of the four runways was completed during the year, providing an additional storm-wind runway 7,750 feet long. This finishes the pattern of two sets of dual runways. Two run north-south and are usually used during calm or storm wind conditions. The other two run about east-west and are the most frequently used, since the prevailing wind is from the west. All four runways can be used during calm conditions, as long as the control tower regulates air traffic so that two or more aircraft will not simultaneously reach the point where the two sets of runways intersect.

The principal prevailing wind runway was widened and lengthened during the year, so that it is now 8,870 feet long and can accommodate any of the aircraft, commercial or military, now in general use.

The installation of high intensity runway lights was started during the year. These will be yet another safeguard for aircraft coming in to land through an overcast. These lights outline the runways for the pilot, even when there is a certain amount of fog.

The dust problem was licked by turfing between runways and taxiways so there is now a nice stand of grass to keep the earth from being blown away by wind and propeller blast.

The aircraft parking apron at the International terminal was strengthened to hold up under larger, heavier aircraft. Airport vehicles were equipped with radio receivers and transmitters for communication, especially during emergencies.

PATTERN SET

The runway pattern is already built for the expanded airport. Two north-south and two east-west runways provide for changing winds.

U. S. COAST GUARD

U.S.C.G. serves wide area from S.F. Airport.

Government Agencies on Field:

The United States Weather Bureau for this area (largest west of Chicago) is located at the airport and is the source of all the various types of weather information that appears in the newspapers or is heard over the radio.

The control tower, atop the passenger terminal, is a function of the Civil Aeronautics Administration which has jurisdiction over all control towers at all airports. The controllers in the tower direct all air traffic in the vicinity of the field, as well as all traffic on the field itself, including the movement of ground vehicles in the operational area. Communication is by very high frequency radio. Radar equipment will also be installed soon.

The CAA also operates the Overseas Foreign Aeronautical Communication Service (OFACS) which has a station on the field. This station maintains radio contact with all trans-Pacific flights between the Pacific Coast and Hawaii. It also collects meteorological information from the entire Pacific area and Asia, and disseminates this data throughout the United States.

The Coast Guard Air Station on the airport, responsible for air-sea rescue and other work, patrols the territory from the Oregon-California boundary to Santa Maria, California and half way to the Hawaiian Islands. This area is patroled by especially equipped Flying Fortresses which carry droppable life boats, and Martin PBM Mariners. A helicopter is also available for special jobs.

READY FOR ACTION

San Mateo County Sheriff's Office assigns a crew to operate at and out of Airport. Here are, left to right, Ambulance Attendant Ed Babwin and Deputy Sheriffs Al Ludwig and Bob Lynch.

Miscellaneous Facts About San Francisco Airport

- The parking lot concession paid the airport $56,905.73 for the year. This was 67½ per cent of the gross, as provided under the agreement.

- There are thirteen scheduled, certificated air carriers operating out of the airport.

- There are 89 employees of the City and County of San Francisco at the airport, the smallest number of employees for any comparable airport.

- The fire protection at the airport is provided by a regular company from the San Francisco Fire Department which is paid out of airport funds.

SAN FRANCISCO AIRPORT
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1950-51

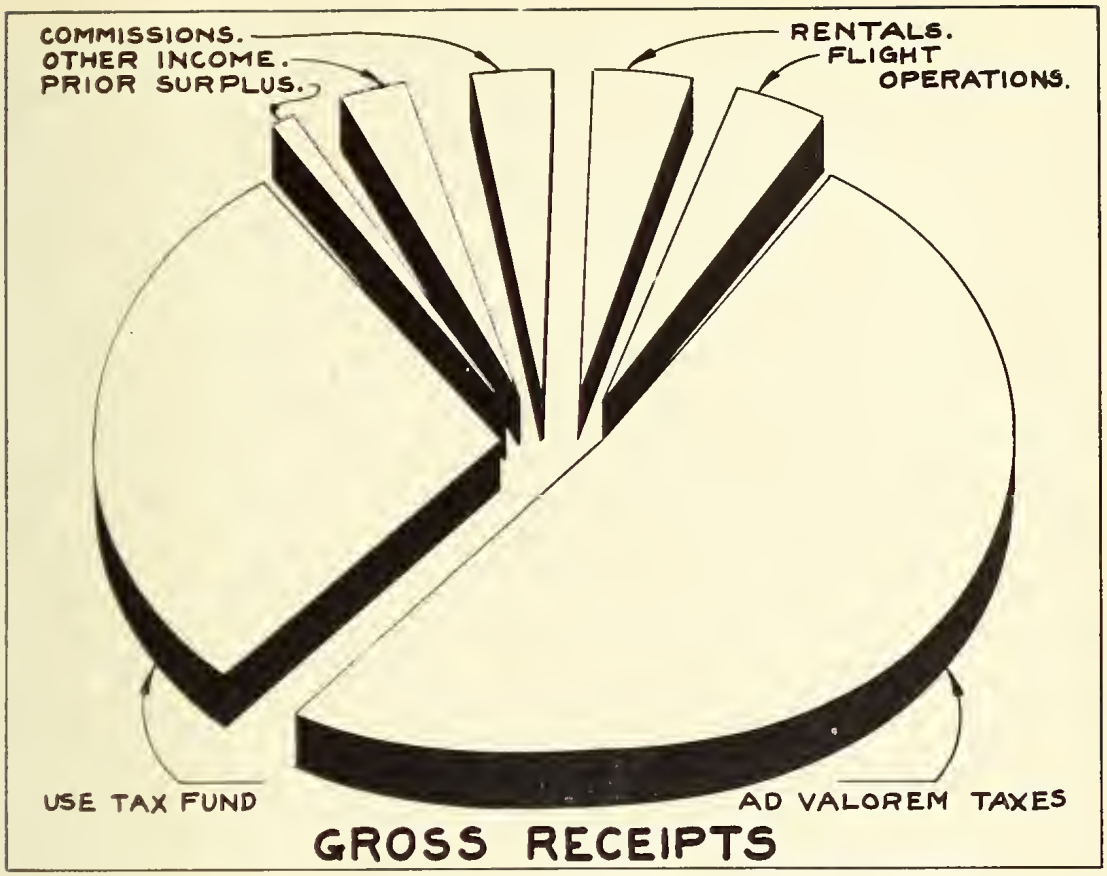
What We Received:

Air Carrier Flight Operations	$ 213,317
Rentals	219,053
Commission on Permits Outside Passenger Terminal Building	109,536
Commission on Agencies	94,025
Other Income	160,674
TOTAL REVENUE	$ 796,605
Prior Year's Surplus	36,541
Capital Improvement Fund (use tax)	968,202
Ad Valorem Taxes	2,043,536
TOTAL RECEIPTS	$3,844,884

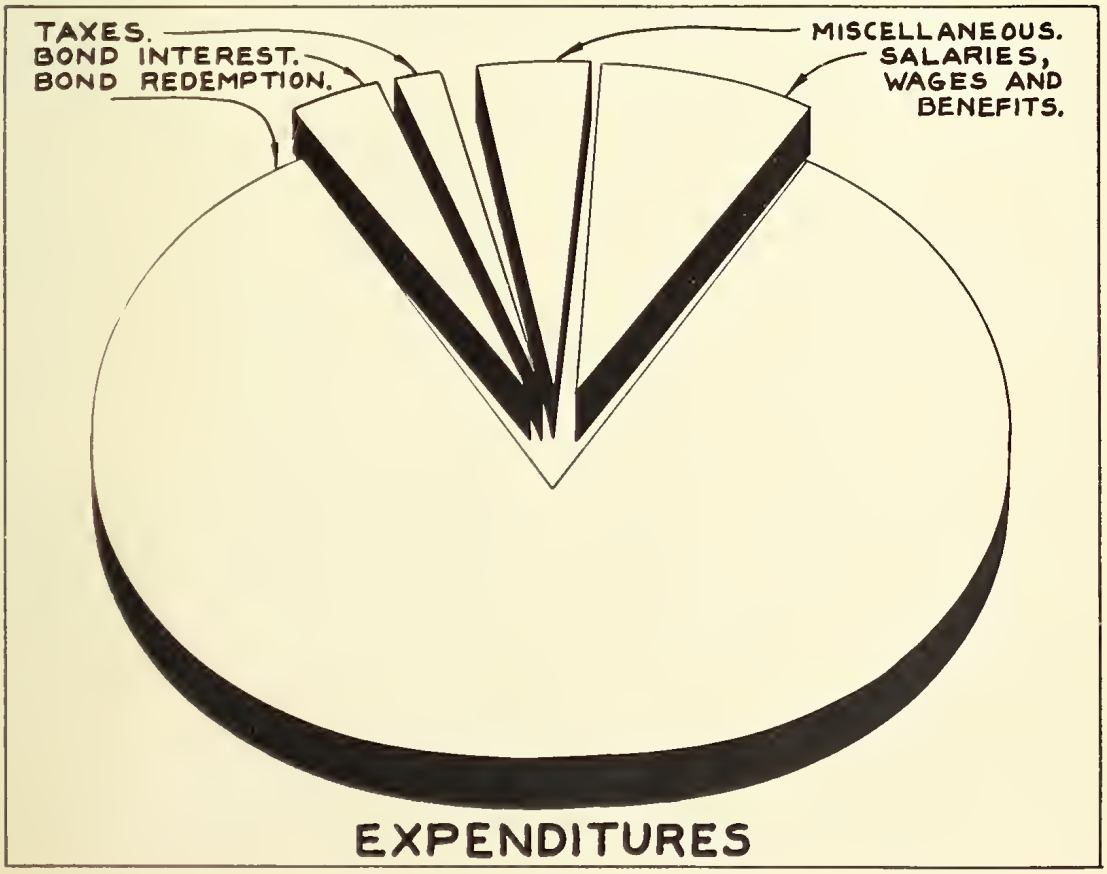
Where Money Went:

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits	391,053
*Miscellaneous	240,844
Taxes	76,664
Bond Interest	173,823
Bond Redemption	2,962,500
TOTAL EXPENDITURES	$3,844,884

*Contractual Services	$ 63,806
Heat, Light and Power	139,183
Material and Supplies	21,037
Insurance	15,680
Other	1,138
	$240,844



GROSS RECEIPTS



EXPENDITURES

CABLE CARS REBUILT

One by one, the cable cars are being completely rebuilt. They say in the shops, "We just jack up the bell and build a new one."

HISTORY OF MUNICIPAL RAILWAY

The Municipal Railway was founded by the City and County of San Francisco in compliance with the general policy embodied in the City Charter that utilities shall be municipally owned and operated. The Railway began operations December 28, 1912.

It was a popular enterprise from the start. By 1944 it had accumulated a two million dollar surplus which was used as down payment on the $7,500,000 purchase price of the old Market Street Railway. The purchase of this property, quite frankly termed a "bunch of junk" by those advocating the purchase, was prompted by the dire need for transit in San Francisco during the war when workers had to be moved efficiently to and from their jobs. The old Market Street Railway was not accomplishing this task. The electorate approved purchase of the private company in May, 1944, and consolidation was effected September 29, 1944.

In the thirty eight and one-half years of business, the Municipal Railway, primarily operated for service rather than profit, has had a net loss from operations of $1,869,502.

The basic fare of the railway has risen from a straight five cents to ten cents. It was raised from five to seven cents at the time of consolidation; to 8 1/3 cents token fare May 20, 1946 and to ten cents January 26, 1949.

SERVICE

At the close of the fiscal year, just forty-three months after November 4, 1947 when the electorate approved the $20,000,000 Municipal Railway Rehabilitation bonds, the Railway has undergone an almost complete physical transformation. What in 1947 was an outdated system employing antiquated streetcars and dilapidated facilities has now emerged as a "New Municipal Railway" providing improved transit acknowledged to be one of the most modern surface transit systems in the nation.

As with all other transit systems, the Municipal Railway has been confronted with a progressive decline in riders since June, 1945 as a result of increased use of private automobiles which not only deprive the system of riders, but so congest the downtown streets that fast transit is sometimes impossible.

While the Railway has suffered continuous losses for the past fifty-six months, the fare has not gone beyond ten cents, although most other transit systems now charge fifteen cents. The Railway has met this problem by changing the type of service in order to be more economical, but it has not reduced service.

This is best seen by the fact that as compared with the fiscal year 1945-46, when the Railway operated 29,454,947 miles, the mileage in 1950-51 totaled 29,329,211 miles — just about the same mileage for the two periods.

Total passengers are down 25.3 per cent since 1945-46 yet the Railway is providing the same amount of service mileage.This mileage is run by more vehicles, so that intervals between vehicles is less, while the number of seats is greater.

Passengers and Money:

Revenue passengers carried during the year totaled 182,536,653, as compared with 187,940,600 — a decrease of 5,403,947.

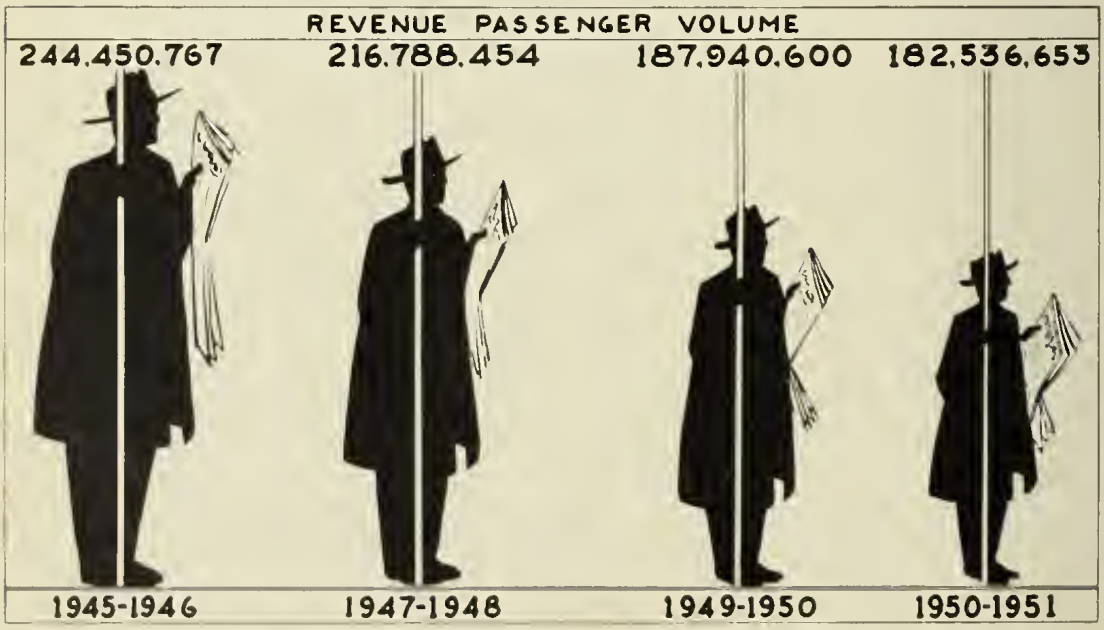
Principal reason for the loss of riders is the progressively greater use of private automobiles. The system still has to furnish the more costly peak hour services under increasingly congested traffic conditions, but has lost mnch off peak business when it has empty seats.

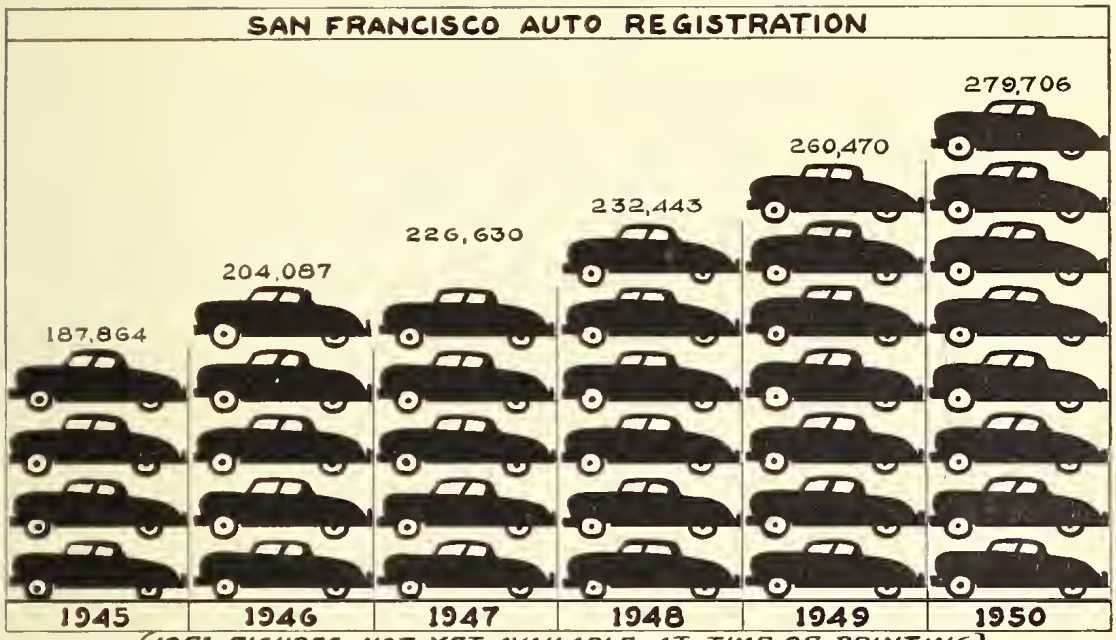
Another factor is a certain amount of decentralization requiring longer hauls and greater coverage in less densely populated areas.

Saturday business has been greatly reduced because of the wide acceptance of the five-day week, and Sunday business suffered severe losses to the automobile.

Business has been concentrated to two rush hour periods five days a week, possibly for twenty to twenty-five hours each week, but requiring full complement of vehicles and operators to handle these periods. About half of the equipment is idle at other times.

Passengers paid $17,859,713 to the Railway during the year. Advertising revenue, contributions from taxes and miscellaneous revenues brought the total receipts to $20,026,712. Of this, only $19,343,728 was spent, leaving $682,984 to be carried over into 1951-52 and thereby reducing the need for tax contributions by that much. While the Railway was allocated $1,062,282 in tax aid for the year, it only used $379,298 of this amount.





(1951 FIGURES NOT YET AVAILABLE AT TIME OF PRINTING)

Changes:

There were many changes, major and minor, during the year, all designed to serve more people more efficiently. Some of the major changes follow:

January 21, 1951, No. 30—Trolley coach line substituted for streetcars on the old "F" line over the established route between Scott and Chestnut (Marina) and Third and Townsend (S. P. Depot).

January 21, 1951, No. 1—Trolley coach line substituted for motor coach over established motor coach route.

January 21, 1951, No. 3—Trolley coach line substituted for motor coach line over established motor coach route.

January 22, 1951, No. 2—Inauguration of limited and express service. Express area from Presidio and Sutter to Montgomery Street, inbound and outbound. Limited stop service at transfer points between 6 a. m. and 5:37 p. m.

May 6, 1951, No. 14—Motor coach through service to Holy Cross Cemetery discontinued. Local and express service from Daly City to Ferry.

May 6, 1951, No. 56—Established new motor coach line to provide service between Daly City and Holy Cross Cemetery.

Mills Report:

Colonel Marmion D. Mills, hired by the Public Utilities Commission as consultant and expediter, rendered a comprehensive report on the Municipal Railway under date of April 1, 1951.

The report reviews the recent history of the Railway, including details of the rehabilitation program. Col. Mills pointed out that the Public Utilities Commission followed fairly closely the original expert suggestions for the expenditure of the $20,000,000 Rehabilitation Bond fund, but did not ignore the realities of the transit situation. For example, there has been a lot of clamor, from those who have not troubled to investigate, for purchase of many streetcars. Col. Mills calls attention to the fact that it would have required a bond issue of $51,756,000 to rehabilitate the old transit system with like facilities. Instead, many lines were converted to economical, one-man trolley coaches, following the inevitable trend in transit all over the nation. Nonetheless, where streetcar operation seems most practical, some 35 new streamlined streetcars were purchased or have been ordered.

The report remarks on the fact that complete cable car rehabilitation had not been contemplated in the 1947 bond issue, but that improvements had been made. Cable cars are being completely rebuilt, one at a time, and funds have been provided to rebuild all worn out track on the Powell-Taylor and Washington-Jackson cable lines.

The only remaining conversions to trolley coach operation, the report states, are the Van Ness-Potrero line and the Mission line from Richland Avenue to Daly City.

Hitting at the very heart of the transit problem in all American cities, Col. Mills stresses that the need is to move people rather than vehicles. This requires intelligent use of streets and the utmost cooperation between City Planning, Police, Public Works and the Railway.

To illustrate his point on the importance of thinking of transit in terms of people, Col. Mills reports that detailed checks on Suteter Street show that 45 per cent of the people who move in and out of the business district in private automobiles use about 85 per cent of the street space, while the mass transit vehicles who move another 45 per cent of the people use only 5 per cent of the street space. The remaining 10 per cent of the people in the district are pedestrians, and the remaining 10 per cent of the street space is required by trucks and interurban buses.

The Mills Report has not glossed over the serious problems and drawbacks of the Municipal Railway, but it does proclaim that the service now rendered by the Municipal Railway compares favorably with that of any other large transit system in the United States, and that any qualified transit engineer or transit rider will corroborate that statement.

Col. Mills also states that modernization of the Municipal Railway has offset the greatly increased costs of doing business by reducing overall operating costs per mile of the system from 63.7 cents in 1947 to 59.9 cents in 1950.

To complete the rehabilitation of the Municipal Railway, Col. Mills recommended a bond issue of $11,864,400.

His entire report has been accepted in principle by the Public Utilities Commission, and those recommendations requiring no new financing have been and are being followed. The proposal for the new bond issue has not yet been specifically approved by the Commission.

The breakdown of the proposal, made as a guide and not as an inflexible program, is as follows:

A.	Unified cable system	$ 60,000
B.	Street Railway System	1,496,000
	22 P. C. C. Cars at @ $35,000	
	Rebuilding 37 old cars @ $5,000	
C.	Proposed trolley coach system	3,053,400
D.	Purchase of 170 trolley coaches @ $20,000	3,400,000
E.	Building new trolley coach yard	425,000
F.	New substations	1,060,000
G.	New motor coaches	1,600,000
	(80 50-seat coaches covering 2-year replacement)	
H.	Central Shop	520,000
	Rebuilding General Shops: $400,000	
	Constructing New Paint Shop: $100,000	
	New roof on Automotive Shop: $20,000	
I.	New fare boxes	250,000

COURTEOUS AND HAPPY

Muni-Man-of-the-Month Frank A. Offen receives a $50 check from Harrison Davis of Fielder, Sorensen and Davis, Transit Advertising firm, while Larry Bourquin of the National Safety Council looks on approvingly. Council, Advertising Firm and City sponsor contest each month.

Personnel, Training and Safety:

A serious shortage of platform operators plagued the Railway during the year, with the net labor turnover increasing from 7.13 per cent in 1949-50 to 19.4 per cent in 1950-51. A special limited tenure hiring program was inaugurated in March and 246 such employees were processed, yet only 99 were on the payroll at year's end, the remaining having been terminated for failure to report to work or for cause.

Total number of Railway employees are as follows:

Platform	2,005
Equipment	632
Track	79
Office, supervisory and miscellaneous	394
TOTAL	3,110

This is a reduction of 192 employees from the total of the previous year.

During the year, 667 operating employees were trained, an increase of 194 employees or 41 per cent over the number trained in the previous year.

The Municipal Railway received a special citation from the American Transit Association for "The greatest improvement during the year in traffic and passenger safety among transit companies of the United States and Canada serving urban populations of 600,000 and over."

Another achievement of Railway employees was the remarkable record of 568 operators who went a year without a chargeable accident. Each of these received a special award from the National Safety Council. The 568 comprised 36 per cent of the operators eligible for the award, one of the highest percentages in the country.

System-wide, there were 1,805 fewer accidents or 19.20 per cent fewer accidents in 1950-51 than there were the previous year.

Claims Department:

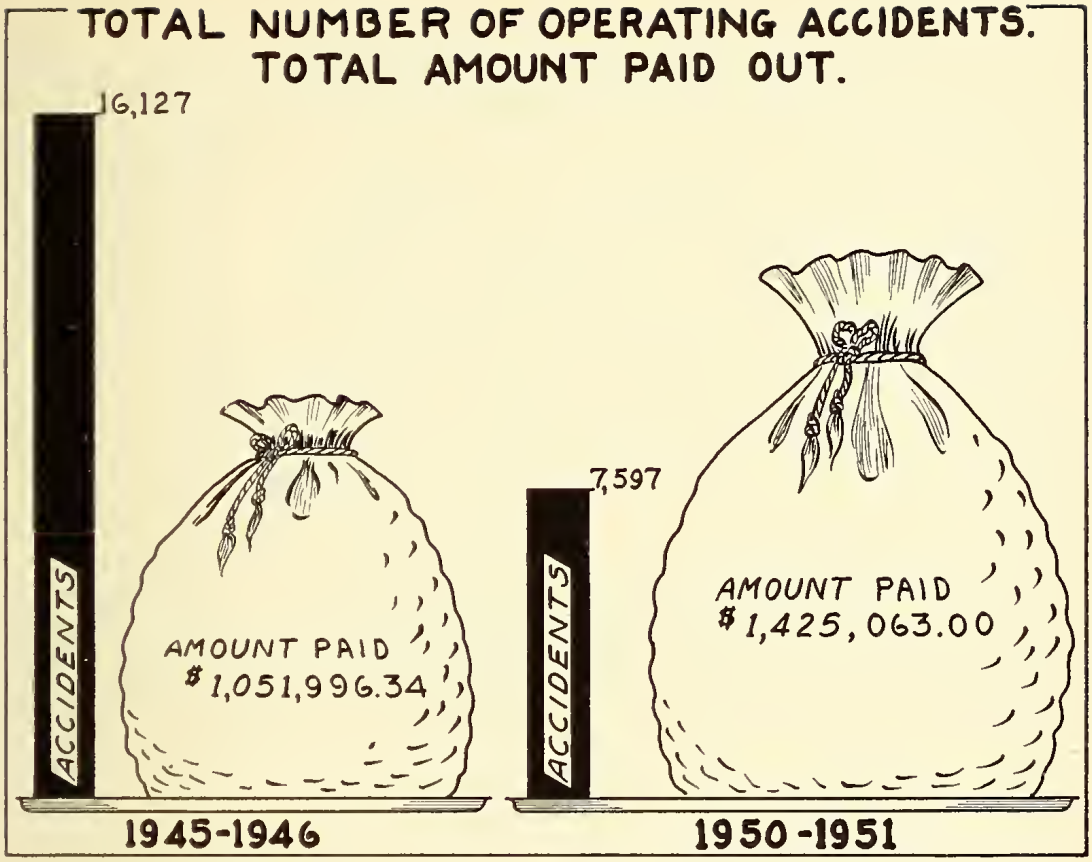
Despite the great reduction in the total number of accidents which has been effected by the Railway in the past few years, the total cost to the system each year does not show a corresponding reduction, but, rather, is steadily increasing.

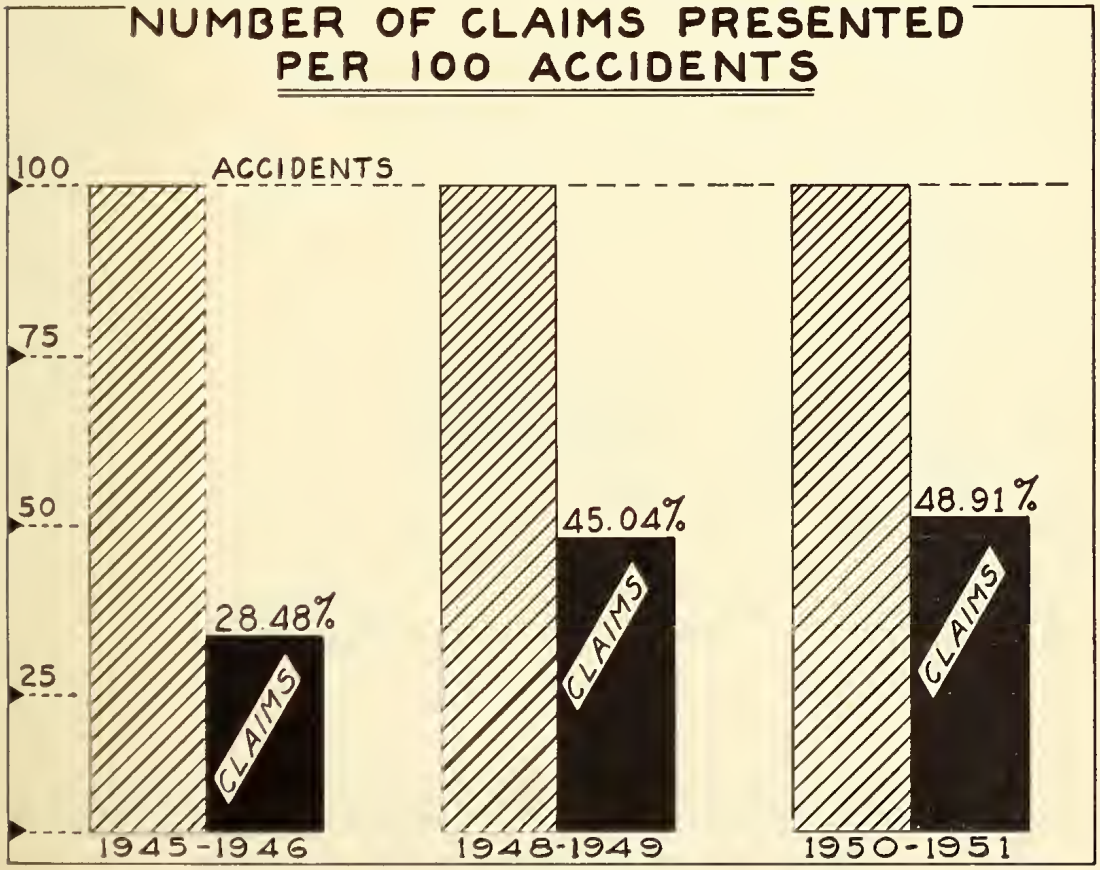
For example, in 1945-46 there were 16,127 accidents of all kinds, and total payments of claims and allied costs amounted to $1,051,996. In 1950-51, there was a total of 7,597 accidents, but the total cost was $1,425,063.

There are two major reasons for this. The first is that inflation seems to have invaded the courtrooms, with judges and juries awarding much higher judgments against the Railway (and other large organizations) than was awarded in the past. The second and more important reason, is that the people have become "claims conscious." They are filing claims in more of the minor accidents than previously.

In 1945-46, there were 28.48 claims filed for each 100 accidents. This percentage has gradually increased so that in 1950-51, 48.91 claims were filed for each 100 accidents.

It is true that some of the total amount paid out each year goes for the settlement of claims originating in prior years, yet this seems inevit-


TOTAL NUMBER OF OPERATING ACCIDENTS.
TOTAL AMOUNT PAID OUT.
16,127
ACCIDENTS
AMOUNT PAID
$1,051,996.34
7,597
ACCIDENTS
AMOUNT PAID
$1,425,063.00
1945-1946
1950-1951


NUMBER OF CLAIMS PRESENTED
PER 100 ACCIDENTS
100
75
50
25
ACCIDENTS
28.48%
CLAIMS
45.04%
CLAIMS
48.91%
CLAIMS
1945-1946
1948-1949
1950-1951

able because of crowded court calendars and appeals through the judiciary ladder.

The hope of the Railway is that new equipment and constant training of personnel will continue to reduce the number of accidents, and that alert claims investigations will thwart any bogus claims that are filed. All of these factors eventually should reduce the total yearly cost of accidents to the Railway.

Equipment:

As of June 30, 1951, the Municipal Railway owned a total of 1,063 transit vehicles.

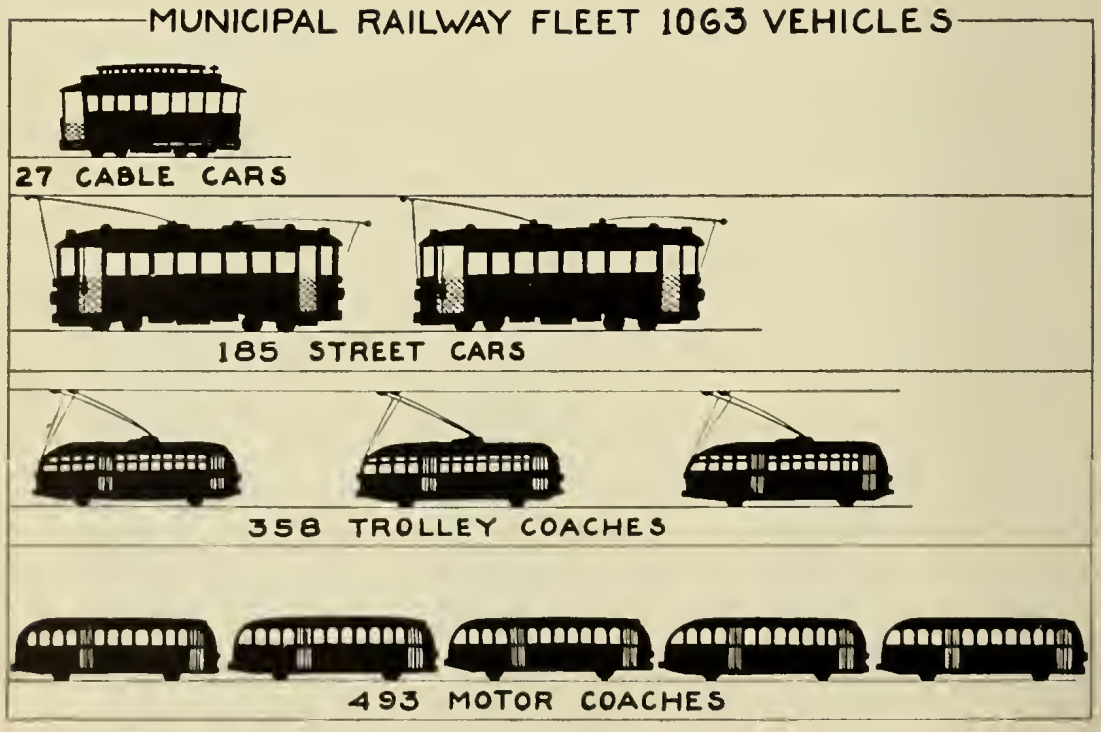
There were 185 streetcars, 15 being of the modern P. C. C. type, 55 old type cars which have been modernized with automatic doors and other improvements, and 115 old type but still very serviceable cars. It was expected at the end of the fiscal year, that another 25 streamlined cars, already ordered, would be part of the fleet before the end of 1951.

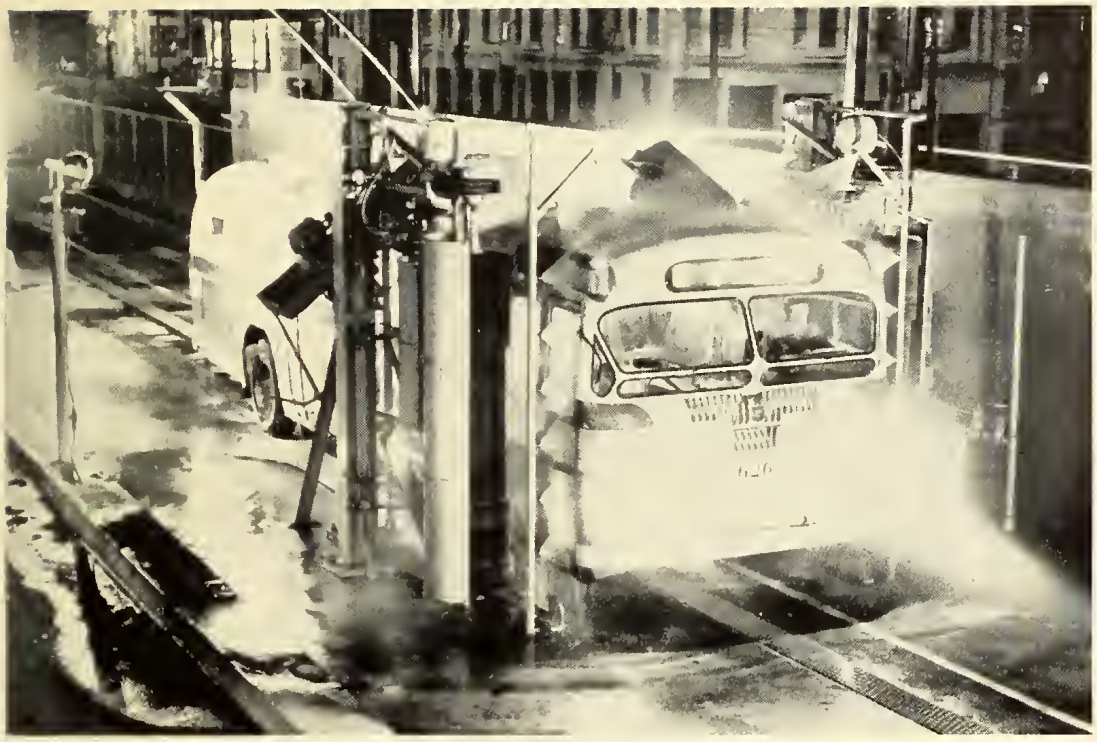
Of the 493 motor coaches now owned, 349 are practically new or less than six years old. Of the 358 trolley coaches owned, 340 are classed as new.

On order at the end of the fiscal year were 40 new trolley coaches, to be delivered toward the end of 1951.

The Railway still has 27 cable cars, one of which had already been completely rebuilt, with plans for the gradual rehabilitation of the entire number of cable cars.

The Railway fleet is house at six strategic locations around the city: trolley coaches at 17th and Potrero, and Presidio Yard; streetcars at Geary carbarn and Geneva carbarn; motor coaches at Ocean Avenue Yard and Kirkland Yard (near Fisherman's Wharf), and the cable cars at Washington and Mason cable carhouse.





QUICK SHOWER

Muni trolley coaches get frequent washings in quick, efficient automatic washer.

Miscellaneous Facts About Municipal Railway

• The Muni Man of the Month, inaugurated by the Railway in September, 1950, was exceptionally well received by the patrons who, in ten months of the contest, sent in 8,091 commendations for Railway personnel.

• Once again the trolley coaches proved the only type of vehicle to make money during the year. For every revenue passenger, the trolley coaches took in .0989 cents and required only .0870 cents to operate, thereby making a profit of .0113.

• In the past four fiscal years, as old equipment was retired, the Municipal Railway has received $432,320 from the sale of this old equipment and scrap material.

• September 10, Kirkland Yard, in the block bounded by North Point, Powell, Beach and Stockton, became an operating division for motor coaches, replacing the old landmark, McAllister Yard.

MUNICIPAL RAILWAY
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1950-51

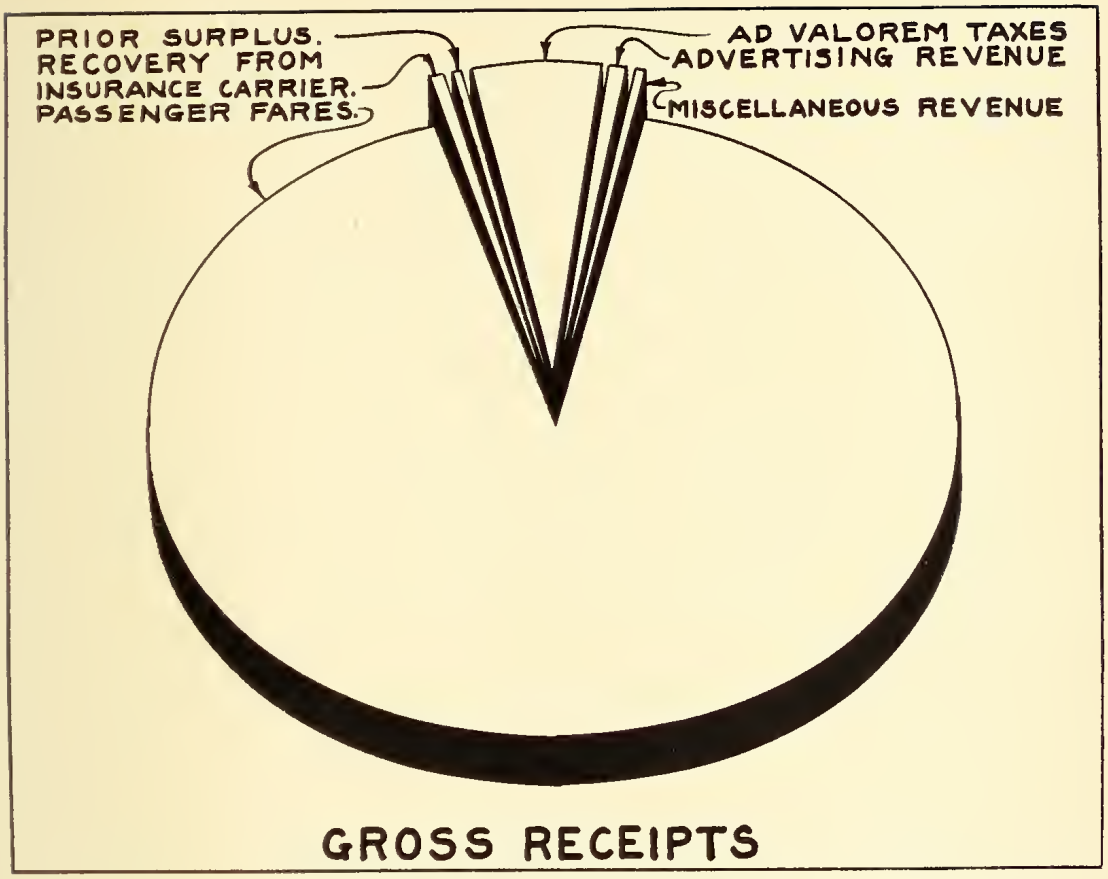
What We Received:

Passenger Fares	$17,859,713
Advertising Revenue	141,879
Miscellaneous Revenue	47,403
TOTAL REVENUE	18,048,995
Recovery from Insurance Carrier	134,891
Prior Year's Surplus	97,560
Ad Valorem Taxes—	1,062,282
TOTAL RECEIPTS	$19,343,728

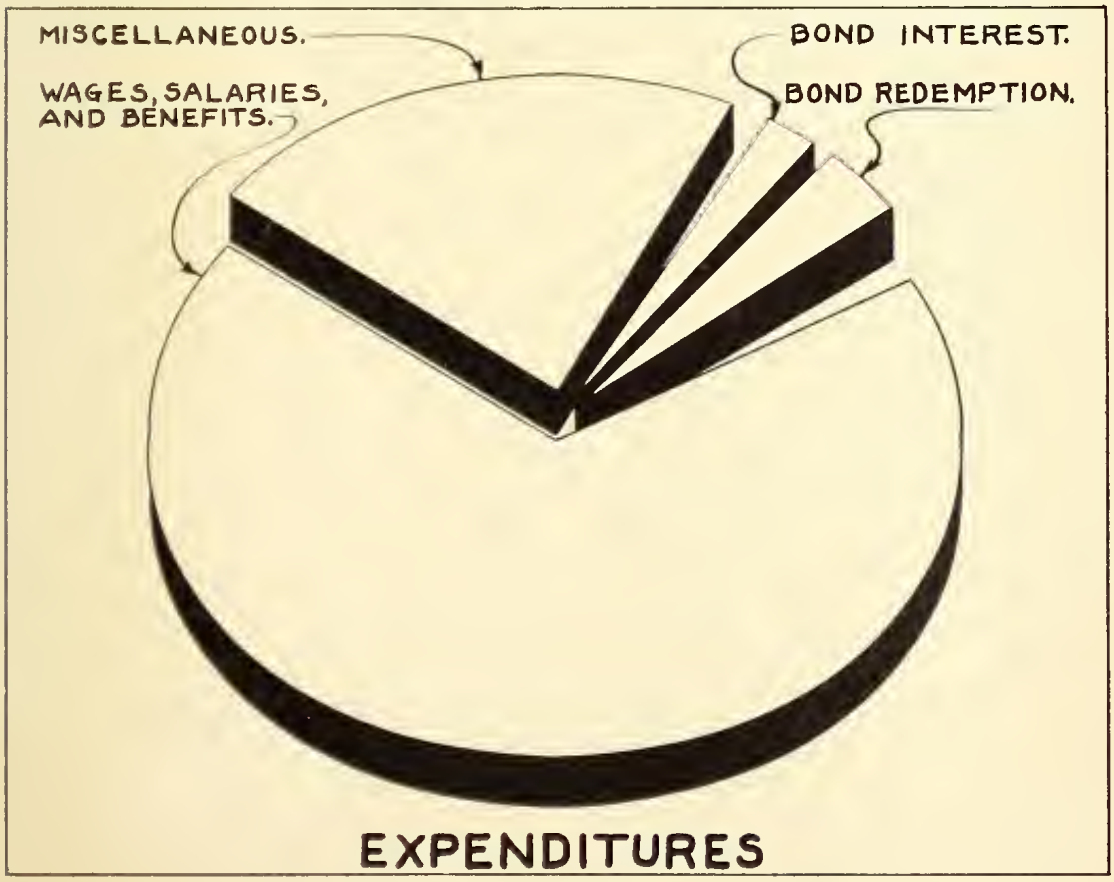
Where Money Went:

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits	$13,255,644
*Miscellaneous	4,828,654
Taxes	—o—
Bond Interest	360,430
Bond Redemption	899,000
	$19,343,728

*Materials and Supplies	$1,925,057
Passenger and Damage Claims	1,245,215
Heat, Light and Power	650,835
Tire Rental	377,503
Other	630,044
	$4,828,654



GROSS RECEIPTS



EXPENDITURES

MUNICIPAL RAILWAY OF SAN FRANCISCO
BONDED DEBT JUNE 30, 1951

	Authorized	Unissued	Retired	Outstanding	Dated
Municipal Railway (1910)	1,981,000		1,981,000		
Municipal Railway (1913)	3,500,000		3,300,000	200,000	12/1/13
1947 Municipal Railway Rehabilitation Bonds ($20,000,000)					
(Series "A")	6,500,000		1,302,000	5,198,000	2/1/48
(Series "B")	4,900,000		246,000	4,654,000	8/1/48
(Series "C")	3,500,000		180,000	3,320,000	3/1/49
(Series "D")	1,500,000		38,000	1,462,000	8/1/49
(Series "E")	550,000		14,000	536,000	11/1/49
(Series "F")	2,400,000			2,400,000	9/1/50
Unsold	650,000	650,000			
1947 Market Street Railway Refinancing Bonds	2,200,000	250,000	300,000	1,650,000	5/1/48
	27,681,000	900,000	7,361,000	19,420,000	

Published by

PUBLIC UTILITIES COMMISSION

OF

SAN FRANCISCO

Compiled by

Bureau of Public Service

SEAL OF THE CITY AND COUNTY
OF SAN FRANCISCO
ORO EN PAZ
FIERRO
EN GUERRA

Annual Report

FISCAL YEAR 1951 - 1952

PUBLIC UTILITIES COMMISSION

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES
ENGINEERING BUREAU

•

WATER DEPARTMENT

•

BUREAU OF LIGHT, HEAT AND POWER

•

SAN FRANCISCO AIRPORT

•

MUNICIPAL RAILWAY

Mr. Oliver M. Rousseau, building contractor, was appointed to the Public Utilities Commission January 15, 1952 by Mayor Elmer E. Robinson. He succeeded Mr. Philip F. Landis who retired after 4 years of service. Mr. Rousseau was elected president of the Commission by his colleagues. Herewith is his report on Commission activities for 1951-52 to Mayor Robinson.

CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

Honorable Elmer E. Robinson
Mayor of City and County of San Francisco
City Hall
San Francisco, California

My Dear Mayor:

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual report covering activities and operations for the period beginning July 1, 1951 and ending June 30, 1952.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management, maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco These utilities are the Municipal Railway; the San Francisco Water Department; Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco Airport Department, and the Bureau of Light, Heat and Power. In addition there are three service bureaus comprising the Bureau of Accounts, Bureau of Safety and Personnel, and the Bureau of Public Service.

In addition to the appointment of the writer as a member of the Commission, your Honor also reappointed Mr. Victor S. Swanson for a second four-year term during the year.

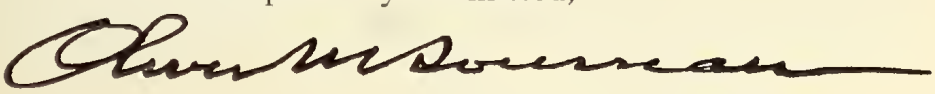
The Manager of Utilities, with the approval of the Commission, appointed during the year Mr. Charles D. Miller as General Manager of the Municipal Railway, replacing William H. Scott, retired; and Mr. Harry Lloyd as Manager and Chief Engineer of the Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau, replacing A. O. Olson, retired.

Detailed accounts of the activities and operations of these several departments will be found in the succeeding sections of this report.

The Commission held 48 regular meetings and 5 special meetings during the year, in the course of which 20 public hearings were conducted. It awarded 80 contracts for work costing $6,396,932.07 and approved contract payments in the amount of $8,656,821.99.

The Commission adopted a budget for the year 1952-53 in the amount of $51,999,967.00 and a supplemental budget in the amount of $1,416,000.00.

Respectfully submitted,



Oliver M. Rousseau
President
Public Utilities Commission

The Public Utilties Commission is appointed by the mayor for a term of four years. The terms of the members are staggered. There are five members of the commission which elects its own president and vice president.

ELMER E. ROBINSON
Mayor

VICTOR S. SWANSON
Commission Vice President

OLIVER M. ROUSSEAU
Commission President

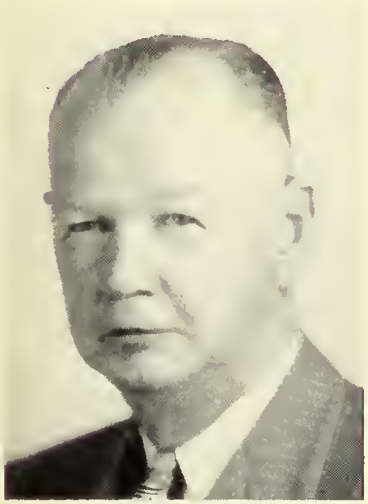
SAM McKEE
Commissioner

EDWARD B. BARON
Commissioner

DONALD A. CAMERON
Commissioner

The Manager of Utilities is appointed by the Public Utilities Commission and serves at its pleasure. He is the executive officer of the Commission. Utility department heads are appointed by the Manager of Utilities with the approval of the Commission.

JAMES H. TURNER
Manager of Utilities



GEORGE PRACY
Manager Water Department

CHARLES D. MILLER
Manager, Municipal Railway

GEORGE DIXON
Manager, Airport

B. A. DEVINE
Manager, Light, Heat & Power

HARRY E. LLOYD
Manager, Hetch Hetchy

TUEEULALA FALLS

This beautiful waterfall adds to the wild beauty of Hetch Hetchy Reservoir in the Sierra. The falls drops down to the reservoir.

HISTORY OF HETCH HETCHY

In 1900 a clause was inserted in the San Francisco Charter which stated that "its public utilities shall be gradually acquired and ultimately owned by the City and County."

Impelled by this mandate to take steps toward the acquisition of a municipal water supply, the Board of Supervisors ordered a survey of possible sources which resulted in the recommendation that the City try to acquire the Tuolumne River watershed as a supply. In 1901, under the leadership of Mayor James Phelan, permission was sought to build dams and reservoirs at Lake Eleanor and Hetch Hetchy, both of which are in the Yosemite National Park, under the jurisdiction of the Department of Interior.

Years were spent in vain attempts by the City to get the clear cut rights necessary, but successive administrations seemed to have different ideas from their predecessors. Finally the City went to Congress itself for the necessary rights, and, in 1913, the Raker Act was passed and signed by President Woodrow Wilson. This gave San Francisco what it wanted.

Interrupted only by World War I, the City then built the beginnings of the still incomplete Hetch Hetchy project. Lake Eleanor Dam was finished in 1918, and O'Shaughnessy Dam in 1923. It was raised to its present height in 1938. All the pipelines and the tunnels that were needed immediately, including the 25-mile-long Coast Range tunnel, were built. At last, in 1934, the first water from the Sierra Nevada mountains flowed to San Francisco.

FUNCTION AND PURPOSE

The long name—Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau—is a simple way to describe all the functions of this branch of the Public Utilities Commission. The "Hetch Hetchy," incidentally is a corruption of an Indian name, "Hatchatchie," identifying the long grass which formerly grew in the valley now used as the system's principal impounding reservoir.

In the first capacity, the bureau has full charge of the Hetch Hetchy Water Supply and Electric Power system, being responsible for the administration, engineering, construction work and operation and maintenance of the system. In the second, it performs engineering work for the Airport Department and the Municipal Railway, planning and supervising all new construction for those utilities and providing engineering service also in connection with maintenance and reconstruction of existing facilities.

The water supply function is, quite simply, that of wholesaler of water to the San Francisco Water Department. It collects and delivers the major share of the water distributed by the Water Department, which pays Hetch Hetchy for this service.

The power division sells the power generated to the various other municipal departments and miscellaneous customers.

Revenues from water and power sales, as well as from other City departments for engineering work performed, have made this bureau self-supporting since its creation in 1932.

Production:

The precipitation and stream flow of the season 1951-52 were well in excess of normal, owing to heavy rains during the months of December, 1951, and January, 1952. Heavy snowpack at low elevations caused a higher runoff during the early part of the runoff period. The Sierra snowpack as a whole contained a volume of water exceeding any heretofore measured.

Runoff forecasts from snow surveys made during February and March, 1952, showed that the anticipated April-July runoff would be somewhat more than 1938, the most recent year of comparable snowpack. Because of the particularly absorbent qualities of the soil mantle below the snow and the cooperation of Nature in foregoing warm rains during the melting period, the amount of runoff was appreciably reduced, thus avoiding the danger of floods to the San Joaquin Valley.

It was still necessary, however, to release water from both the Hetch Hetchy and Lake Eleanor reservoirs some 40 days before the normal spilling time in order to provide space for the regulation of flood flows.

The Tuolumne River runoff was, of course, much more than necessary to supply the needs of the Water Department and to run the powerhouse at Moccasin Creek. This runoff was 2,689,500 acre feet during the fiscal year, an increase of 709,500 acre feet over the previous year. An acre foot is equivalent to one foot of water over one acre of area, or 325,850 gallons. Thus the increase this year was more than 230 billion gallons of water.

Cherry River Project:

Despite severe snowstorms and unprecedented rainfall, good progress was made during the year on this new dam and reservoir in the Sierra mountains which will be the third major impounding reservoir in the Hetch Hetchy system.

It was expected that sufficient preliminary work will be completed by 1952-53 so that actual construction of the dam itself and related facilities can begin.

Work on the Cherry Valley Access road, 24 miles long, was inevitably delayed because of weather, although progress was made. The road leaves State Highway 120 near South Fork and continues via Jones Point and Early Intake to the Cherry Valley damsite. New bridges have been constructed across the Tuolumne River at Early Intake and across Cherry River.

Work is well underway on the permanent construction camp and a 10-mile power line to the damsite.

A contract was awarded for building the diversion tunnel and power tunnel stub for the dam. The diversion tunnel will divert Cherry River during construction of the dam.

Cherry River Bridge being built

Thorough exploration and expert testing procedures by City and Army Engineer forces have firmly established satisfactory foundation conditions at the damsite, and have verified that excellent materials are available in Cherry Valley for the construction work. To insure consistency of quality of building materials, a small testing laboratory has been established at the damsite and testing will continue throughout construction.

The general design of the dam has been completed and consists of a structure 320 feet high, 2600 feet long, having an impervious core of rolled earth with rock blankets upstream and downstream. This design has been concurred in by the Corps of Engineers of the U. S. Army and the Board of Consultant Engineers for the Cherry River Project.

The cost of the Cherry Valley Dam is being financed, for the most part, through payments made by the Federal Government in the interest of flood control on the Tuolumne River. Under a contract executed between the Federal Government, the City and the Modesto and Turlock Irrigation Districts, the Federal Government is to pay $12,000,000 for the flood control service to be provided by the City and the Districts.

Of this amount, $3,000,000 has been reserved to pay part of the cost of the Districts' new Don Pedro Dam and $9,000,000 has been allocated to defray a portion of the expense of Cherry Valley Dam. A bond issue of $4,000,000 was approved by the citizens of San Francisco in 1949 to provide the additional funds estimated at that time as necessary to build the project at a cost of $13,000,000.

The construction program, of necessity, is determined by the availability of Federal appropriations. To date, the Congress has made four successive annual appropriations totaling $5,030,900 for the project, of which $4,805,000 has been paid to the City.

An additional appropriation of $2,250,000 was made for 1952-53 and will be available for construction in that year.

HETCH HETCHY POWER

The City is not in the power business to compete with the private companies for residential sales, but, since it does have a water supply system with power potential, this force was put to work producing energy for street lights, running Municipal Railway vehicles and lighting public buildings.

Gross revenue from the sale of electric energy during the fiscal year was $4,009,143 compared with $3,439,372 in 1950-51, an increase of 16.5 per cent. The increase was largely due to increased consumption by the City's two industrial accounts: Kaiser Aluminum and Chemical Corporation, with an increase of 174 per cent over the previous year, and Permanente Cement Company, with an increase of 15 per cent. Municipal uses increased 8 per cent.

The demand from the City's municipal departments, the Modesto and Turlock Irrigation Districts, and the industrial users not only accounted for the entire output of the Hetch Hetchy generating plant, but it was also necessary to purchase power to the amount of $453,316 in order to fulfill commitments. The increased consumption noted is a reflection of a general growth trend throughout the state.

In addition to the above loads, the Riverbank Ordnance Plant for the manufacture of shell casings for the Army has been recently connected to the City's lines. When this plant reaches full production it is estimated that an additional annual gross income of $325,000 will result.

HETCH HETCHY ENGINEERING

Municipal Railway:

Installation of trolley coach overhead was completed and operation of such trolley service begun during the year on the No. 47 Van Ness-Potrero, No. 14 Mission Street to Daly City, and the No. 12 Mission Street and Ocean Ave. to City College. These line changes, plus other loops and minor changes in existing trolley lines, complete the major part of the trolley coach overhead work to be done under the 1947 Railway Rehabilitation Bond issue of $20,000,000.

Construction of an automatic substation on Russia Avenue near Mission Street was begun during the year; electric heaters were installed in 264 trolley coaches; modernization of the lighting and power for machine tools at Washington-Mason Cable Carhouse, and various other electrical engineering work was carried forward.

Waiting station facilities for the convenience of passengers were increased by the completion of the station at LaPlaya and Balboa Avenues; an awning was added to the West Portal Station, and City College Station and terminal were completed at Ocean Avenue near Phelan Avenue.

Tracks and roadway on Ocean Avenue were reconstructed, making this street much more attractive to everybody.

The renewal of cable tracks on Columbus Avenue and on Mason Street was completed this year, the first step in the general overhaul of tracks on the Powell-Mason and Washington-Jackson cable lines.

Many other important and minor railway engineering projects were completed, or started during the year.

Airport Engineering:

Work began on a new $10,000,000 terminal area in October, 1951, when Clinton Construction Company began their $6,700,000 contract for building the passenger terminal, the basic element of the new terminal area.

Designs are under way for additional elements of the terminal area such as an Air Mail and Air Cargo building, passenger concourses and utility extensions. These are scheduled for completion at the same time as the terminal itself, now expected to be in December, 1953.

Installation of high intensity runway lights on all four runways was accomplished during the year, thus providing another part of an integrated system of landing aids that will soon include approach lights and surveillance and precision radar. The trestles upon which the approach lights will be built were designed during the year, and the engineering staff cooperated with the Civil Aeronautics Administration in the design of the precision radar.

Private flyers are benefiting from the new Itinerant Pilots' Building which was constructed and placed in operation during the year.

In addition to the federal grants of $3,453,281 accepted by the City during the past three years, federal grants aggregating $624,262 were accepted by the City this year to assist in financing Airport improvements, making a total of $4,077,543 allocated to San Francisco under the Federal Airport Aid Act.

Limited federal appropriations and CAA regulations make careful scheduling of Airport work imperative, since no federal payment toward any project is received until that particular project is completed. The money received is then used for the next improvement. This has been the reason the Airport construction has not moved as quickly as it would otherwise.

Miscellaneous Facts About Hetch Hetchy System

• Harry Lloyd, a veteran engineer in the Hetch Hetchy Department who also has had wide experience in private enterprise, became the Manager and Chief Engineer of Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau December 1, 1952. He replaced A. O. Olson, who retired.

• Construction of San Joaquin Valley Pipeline No. 2 was expected to be completed in the 1952-53 fiscal year. It waited only on some valve and liner plate work which has to be done when the line can be shut down completely. It presently is delivering part of its maximum capacity of 78 million gallons daily.

• Each year the Hetch Hetchy engineers cooperate with the State in making surveys of the amount and water producing qualities of the snow on the mountains of the Hetch Hetchy watershed.

• There are five City-owned cabins on the snow survey course, each radio equipped so contact can be established with the headquarters when the surveyors are forced to "hole up" during bad storms.

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES ENGINEERING BUREAU
FISCAL YEAR 1951-1952

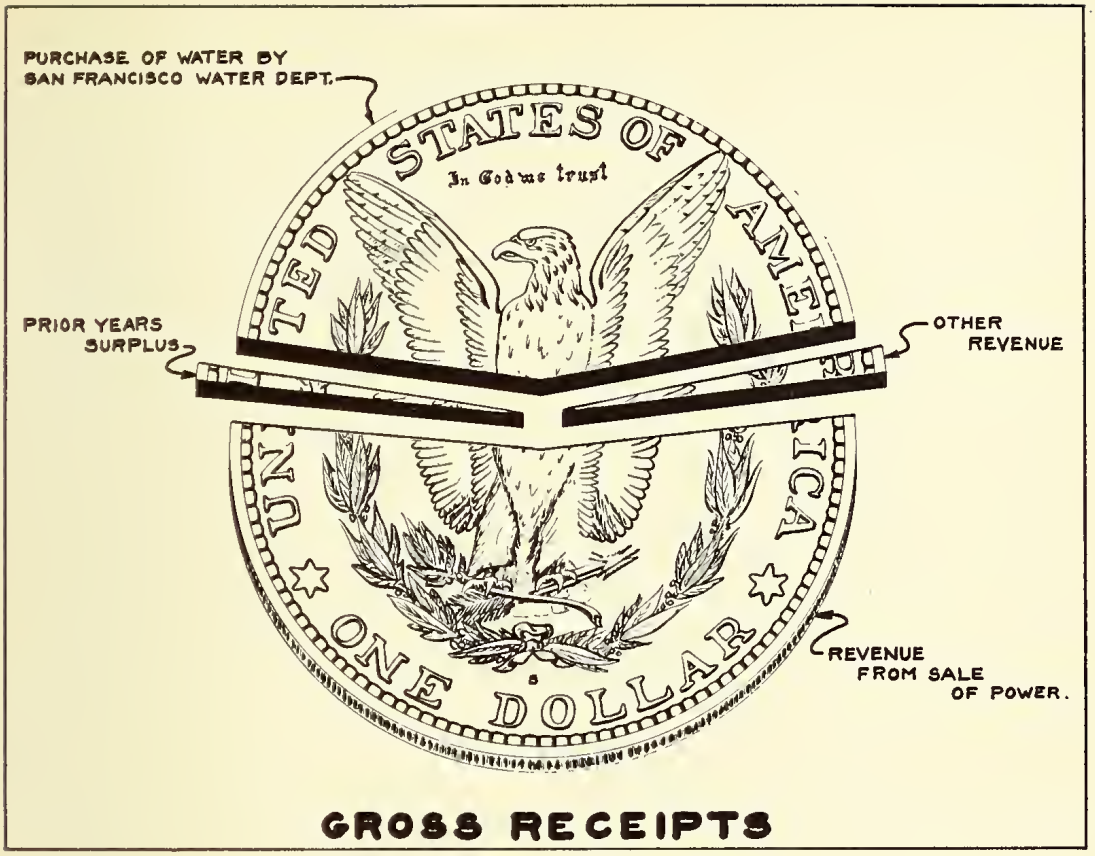
What We Received:

By Transfer from S. F. Water Dept. for Standby and Purchase	$ 3,445,250
Revenue from Sale of Power	4,009,144
Other Revenue	36,737
Prior Year's Surplus	25,798
TOTAL RECEIPTS	$ 7,516,929

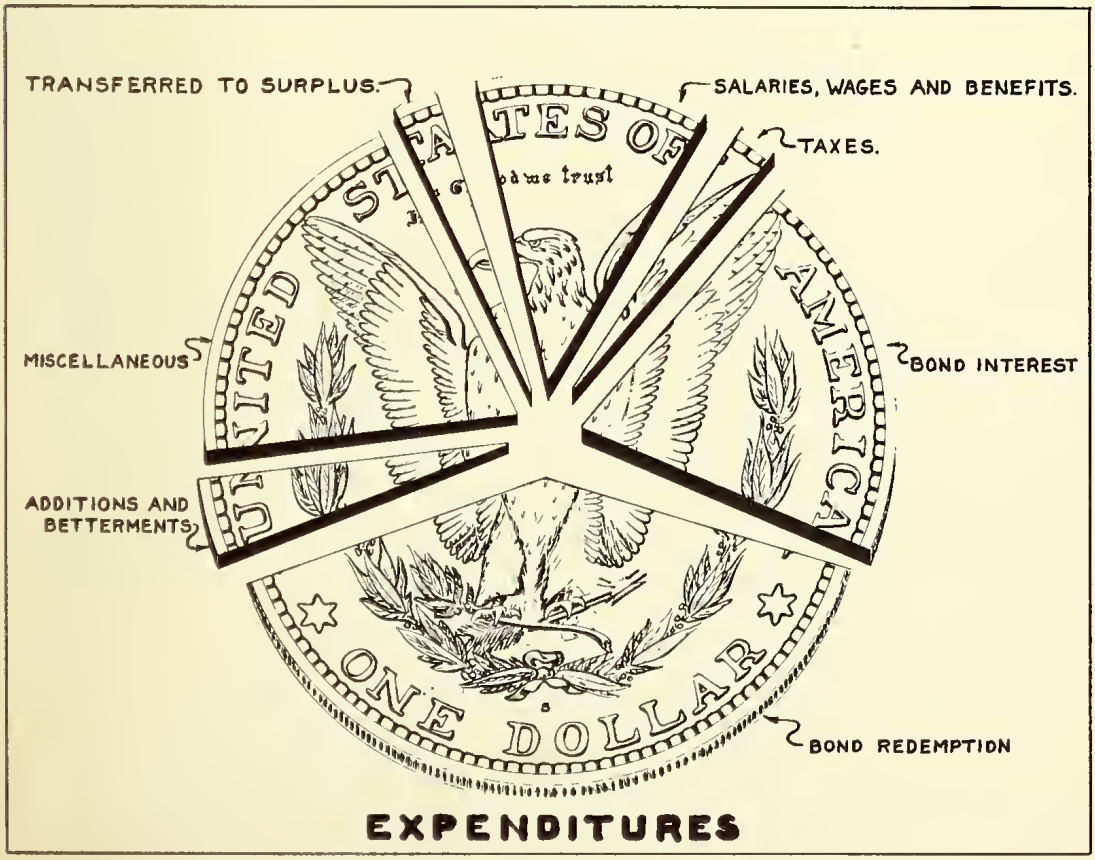
Where Money Went:

Salary and Wages Including Retirement, Sickness and Industrial Compensation Benefits	$ 908,103
*Miscellaneous	1,597,553
Taxes	18,040
Bond Interest	1,932,962
Bond Redemption	2,903,958
Additions and Betterments	42,010
TOTAL EXPENDITURES	$ 7,402,626
Unappropriated Revenue Transferred to Surplus	114,303
	$ 7,516,929

*Contractual Services	$ 44,673
Material and Supplies	83,248
Water Rights and Damage Claims	28,240
Fee to U. S. Government	30,000
Purchase of Power for Resale, Service Charge and Rental of Transmission Line	1,409,094
Insurance	2,298
	$1,597,553



GROSS RECEIPTS



EXPENDITURES

WATER AND WALNUTS

Above the Sunol Filter Galleries the earth is black and rich. Here, Water Department has walnut orchard which is model for agriculture students and yields excellent crops.

BRIEF HISTORY OF THE WATER DEPARTMENT

March 3, 1952, marked the twenty-second anniversary of the municipally owned San Francisco Water Department. It was on that day in 1930 that the City took over the private Spring Valley Water Company which had served San Francisco as its major water works since 1865.

The purchase of the private company by the City for $41,000,000 culminated many years of effort on the part of citizens to buy out the company with which many people were dissatisfied.

In the early Gold Rush days San Francisco had obtained its water from wells, small local streams, by barge from Sausalito and, when population continued to outstrip the supply, the Spring Valley Company branched out for new sources in San Mateo County. Later this company developed sources in the East Bay. All of these sources, with the necessary reservoirs and transmission lines, of course became part of the San Francisco Water Department in 1930. Then, in 1934, the Department's supply was substantially increased by the addition of Hetch Hetchy water which, today, provides over 60 per cent of the total supply.

Since its beginning, the Water Department has been completely self-sustaining, requiring no tax support. In twenty-two years while everything else has gone up in cost, the Department has reduced residential rates until they are now ten per cent lower than they were under those of the Spring Valley Water Company.

PRODUCTION AND TRANSMISSION

For the second straight year, rainfall in the Water Department's catchment areas on the San Francisco Peninsula and in the East Bay was above normal, producing a greater runoff and an all-time high of 62.3 billion gallons surface storage in local reservoirs. Previous high was 62 billion gallons in 1941.

The end of the fiscal year, June 30, found surface storage at 59.1 billion gallons, or 4.9 billion gallons above that of June 30, 1951. This higher local production of water made it possible to reduce the amount drawn from Hetch Hetchy sources to an average of 59.2 million gallons daily, as compared to an average of 77.4 million gallons drawn each day during the previous year.

Total amount of water used during the year was 39.94 billion gallons, from the following sources:

Local production	18.27 billion gallons
Hetch Hetchy sources	21.67 billion gallons
Total	39.94 billion gallons

This draft on all sources was necessary to meet consumption requirements for the year which averaged 109.1 million gallons daily, an increase of 3.3 million gallons daily over last year.

The rapidly growing water consumption requires that the Water Department take prompt action in finishing the Sunset pipeline from the Peninsula reservoirs to the City, and the construction of Balboa Reservoir at Ocean and Phelan Avenues. The latter will be a major City reservoir providing strategic location for pressure purposes and capacity for consumption needs.

WATER CONSUMPTION AND SALES

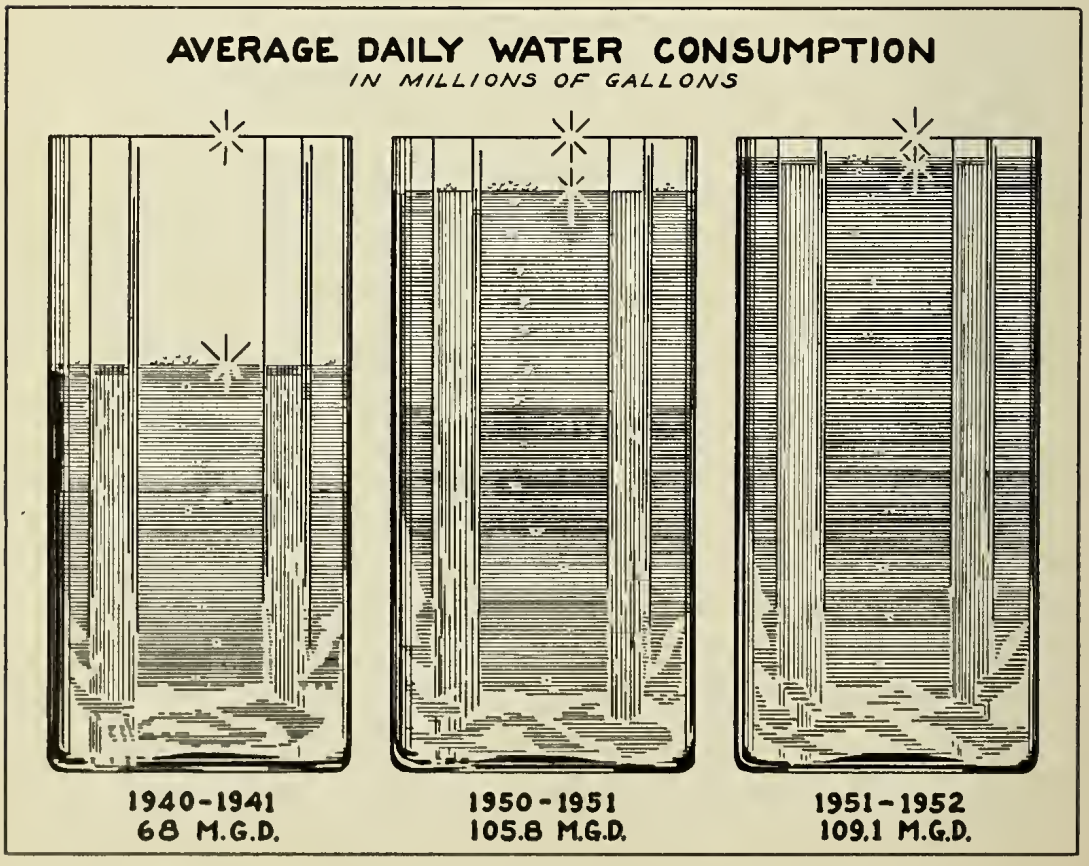
Water consumption for the entire system during the year averaged 109.1 million gallons daily, an increase of 3.3 million gallons daily over the preceding year. Of this total, 82.9 million gallons daily were used in San Francisco and the balance of 26.2 million gallons daily were used in suburban consumption.

Peak demand on the system occured on June 16, 1952, when 154 million gallons were used on the one day, as compared to the previous daily peak consumption of 147.7 million gallons on June 1, 1951.

Water sales for the year amounted to $11,982,213, an increase of $579,469 or 5.1 per cent over the previous year. This includes $587,126 for water used by municipal departments for which payments were not actually received, so the financial tabulations at the end of this section, on a cash basis, do not reflect these municipal sales.

By arranging to mail bills to large corporations before their books are closed each month, payment for water in these accounts are now received a month earlier than formerly.

New service inaugurated during the year totaled 1,638, bringing the overall total of accounts to 148,120, of which 758 accounts were in the suburban areas.



CITY DISTRIBUTION DIVISION

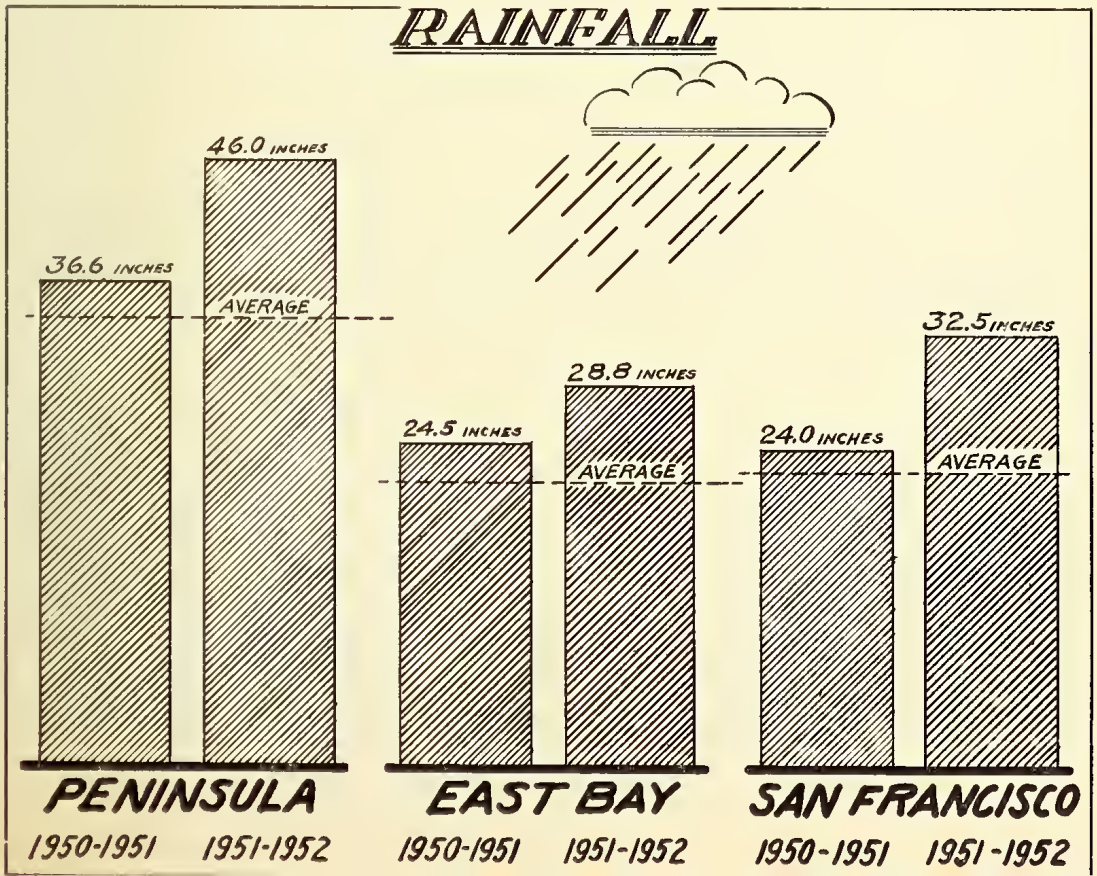
Because San Francisco again experienced a rather cool year, there having been no hot weather for any length of time, there were no "no water" complaints due to the inadequacy of the system.

Again, as during last year, the principal complaint from the consumers is one of "poor pressure," which should read "poor supply." They are due to either the service being choked or the housepiping being too small, or both.

The changeover from the Stanford Heights and Sunset Districts to the Sutro District still remains to be done. This work will in all probability be an accomplished fact by the middle of 1953.

From past experience a hot spell of several days' duration would create a serious situation throughout the City. This condition can only be overcome by the laying of additional feeder mains in the various distribution districts, as well as the rearrangement of the existing feeder mains.

Plans are now being prepared by the Standard Building Company for the development of the property north of Portola Drive and west of Twin Peaks Boulevard. Most of this property is at such elevation as to require the water supply to come from Forest Hill Tanks. Also with the development of Diamond Heights, i.e. the property south of Portola Drive and east of O'Shaughnessy Boulevard, much of the water supply will also have to come from Forest Hill Tanks. The total storage of the Forest Hill Tanks is only 600,000 gallons at an elevation of 800 feet. Provision has been made in the coming budget for additional storage, together with an adequate pumping station and feeder mains. This new reservoir will be known as Summit. The reservoir site at 800 foot elevtaion is located just south of Palo Alto Avenue and west of Twin Peaks.



CONSTRUCTION

The 34-mile Bay Division Pipeline No. 3 was completed in May 1952, and has been in service since then. Built at a cost of $8,315,645.78, this pipeline extends from the Coast Range Tunnel on the east side of the Bay, around the southern end of the Bay, and up the Peninsula to Crystal Springs Reservoir. It was built in order to increase the water transmission capacity from the Hetch Hetchy system in the Sierra mountains to the terminal reservoirs on the Peninsula. This was one of the major projects under a $25,000,000 water bond issue approved by the electorate in 1947.

Sutro Reservoir, long needed to increase storage capacity in the City and to equalize pressures in a large area, is now expected to be in service in the middle of 1953. The reservoir itself was finished in March, 1952, but the required feeder mains had to wait for government approval under the Defense Production Act of 1950. Some progress in this matter is now being made, however, and most of the cast iron pipe for the secondary feeder mains for the Sutro District has been or is being laid.

Strikes considerably delayed work on the Lake Merced Pumping Station, but the job is once more under way. The $1,064,570 contract was awarded in December, 1951, with funds from a 1942 water bond issue. The pumping station will act as a booster pumping plant to increase flow from Peninsula reservoirs into Sunset and Sutro Reservoirs, or, in an emergency, it could pump water from Lake Merced into the City distribution system.

NEW SUTRO RESERVOIR

BETTER TEETH

Most medical authorities agree that addition of fluoride to water would be beneficial to teeth of growing children. Citizens approved the program. Above is part of equipment for putting fluoride in San Francisco Water Supply.

Miscellaneous Facts About Water Department

• In the twenty-two year history of the Water Department, there has never been a single instance where an illness of a consumer has been traced to the water supply.

• The Water Department is one of the few major water supplies in the United States which is completely supported by revenues of consumers, with no tax subsidies, hidden or otherwise.

• Despite the doubling of the number of accounts serviced and the doubling of water consumption since the City took over the Spring Valley Water Company in 1930, the number of employees in the Department has increased by only eight people in those twenty-two years. There were 512 in the old private company and there were 520 in the Department at the end of the fiscal year.

• A total of 63,281 acres of land are now held under Water Department jurisdiction, of which 35,423 acres are leased under 109 leases. Land is leased for purposes which will not endanger the sanitation of the water supply.

SAN FRANCISCO WATER DEPARTMENT
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1951-1952

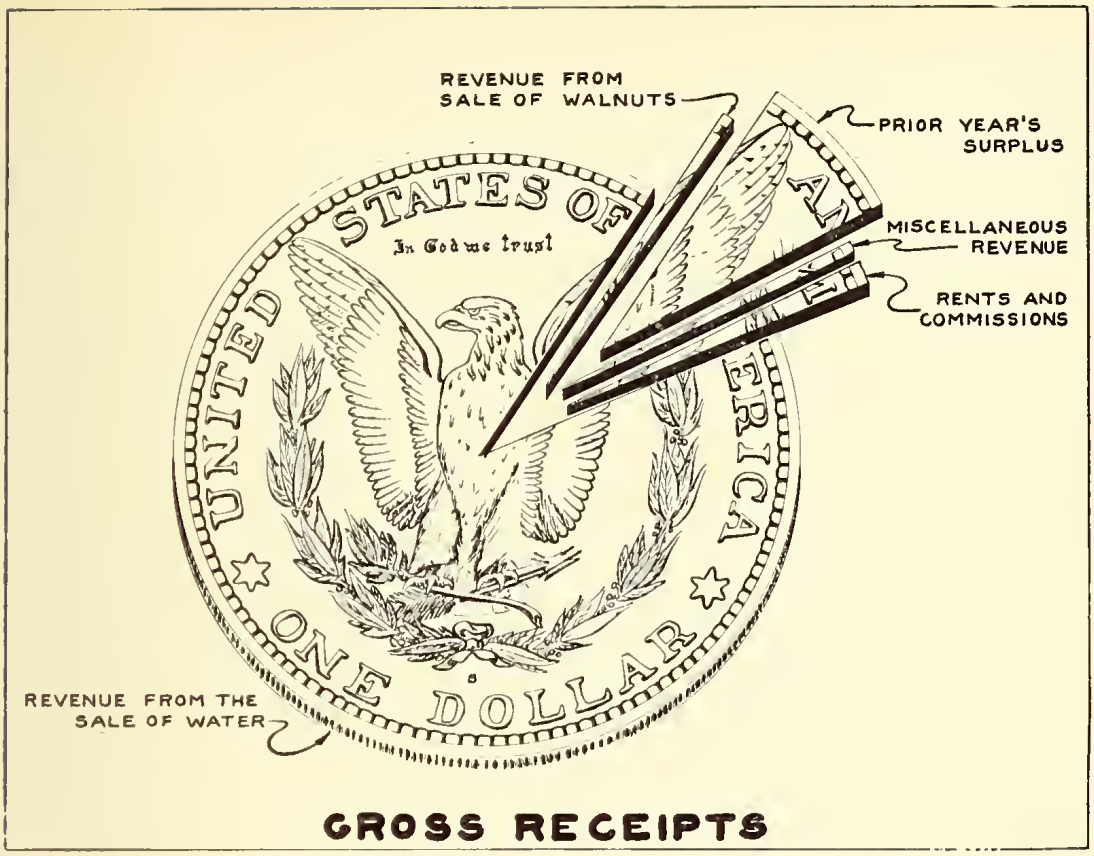
What We Received:

Revenue from the Sale of Water	$11,395,087
Revenue from the Sale of Walnuts	32,181
Rents and Commissions	206,868
Miscellaneous Revenue	20,352
Prior Year's Surplus	875,626
TOTAL RECEIPTS	$12,530,114

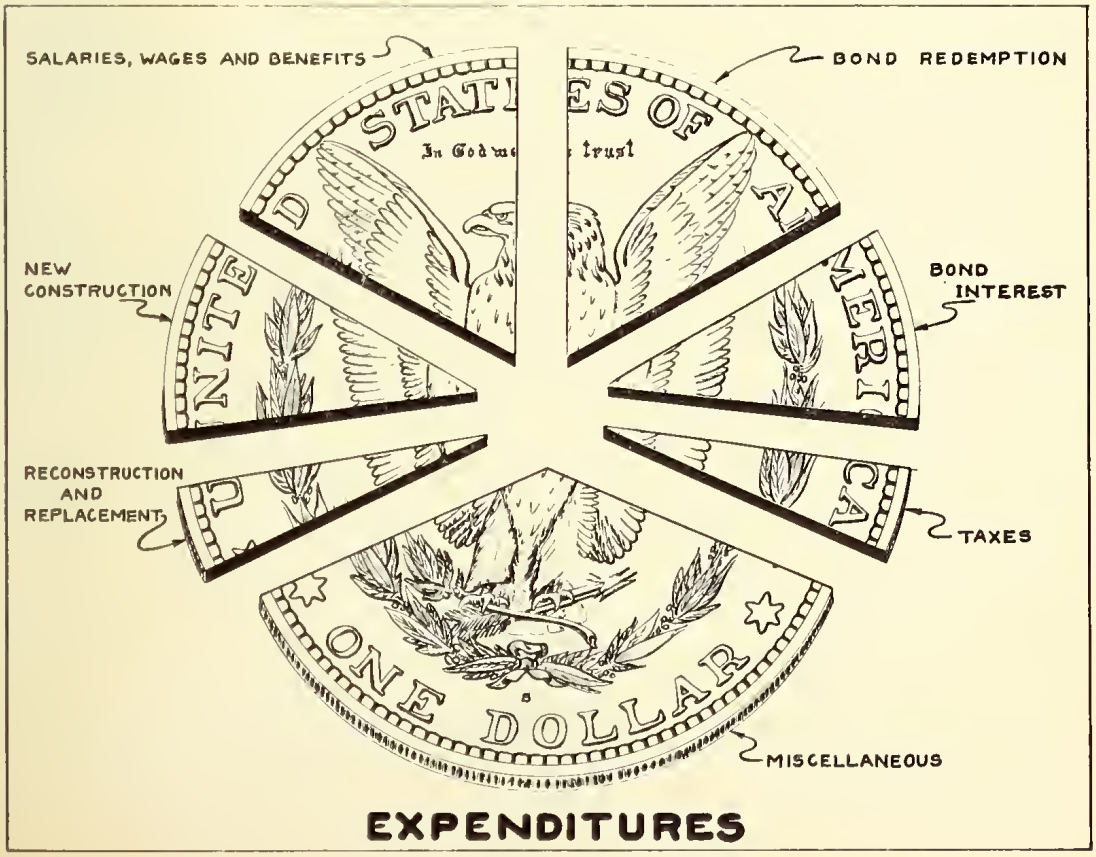
Where Money Went:

Salaries, Wages, Including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 1,887,540
*Miscellaneous	4,185,351
Taxes	498,673
Bond Interest	1,092,991
Bond Redemption	1,928,042
New Construction	1,744,638
Reconstruction and Replacement	36,700
TOTAL EXPENDITURES	$11,373,935
Unappropriated Revenue Transferred to Surplus	1,156,179
	$12,530,114

*Material and Supplies	$ 250,875
Contractual Services	430,895
Standby Charge and Purchase of Water	3,445,250
Other Expenses	58,331
	$4,185,351



GROSS RECEIPTS



EXPENDITURES

BUREAU OF LIGHT, HEAT AND POWER

History and Function:

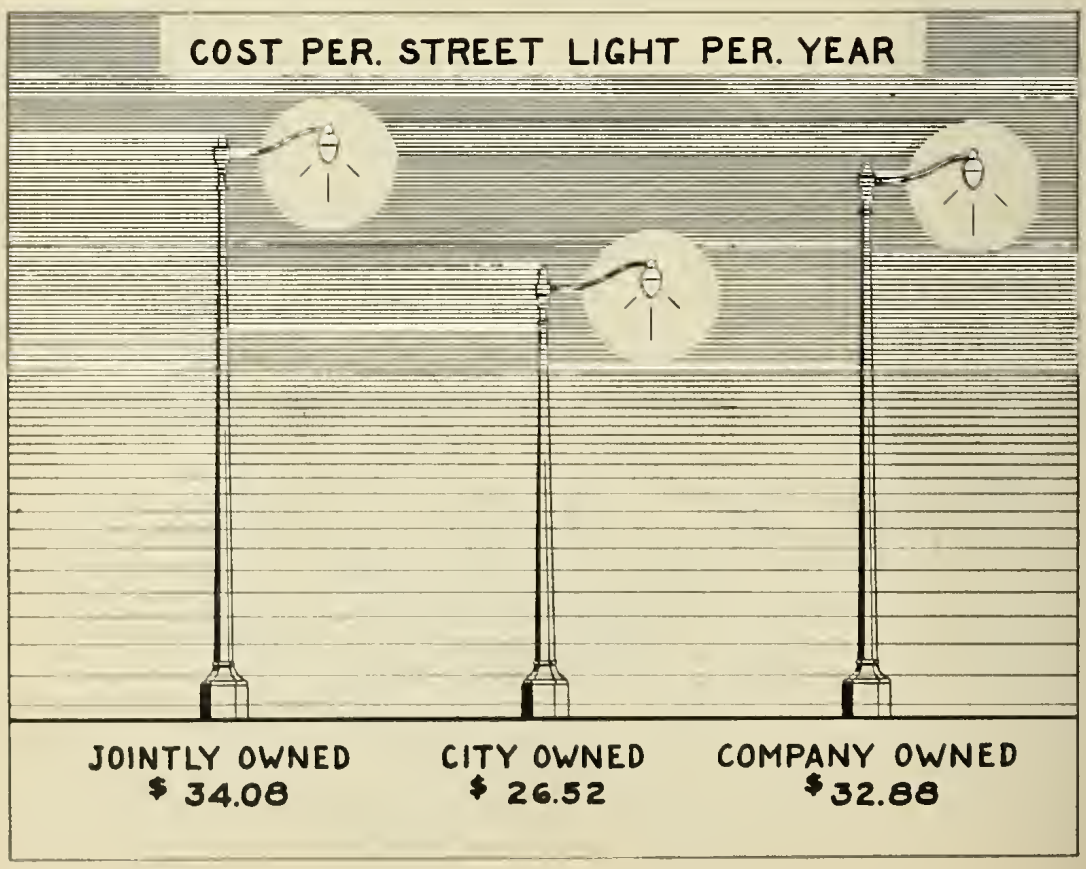
The functions of this Bureau include the design, construction and operation of the street lighting system, the purchase of utility services for all departments of the City and the furnishing of heat and illumination engineering services to all City departments.

Prior to 1932, when the present City Charter became effective, the city street lighting problems were handled by the Board of Supervisors, while each individual department handled its own utility bills. Under the new charter, these functions are consolidated in this Bureau.

Since that time, City-owned lights have increased from 934 to 6,400.

In keeping with the Charter intentions, the City has gradually acquired ownership of street lights by selecting various arterials that were in need of new lighting and doing the job. Thus the number of lights owned by the Pacific Gas and Electric Company is reduced and the City-owned lights increased. This results in lower operating costs, as the cost per year for privately-owned lights is $32.88, as compared to $26.52 for those owned by the City.

The Bureau operates in close cooperation with the Police Department in installing so-called "Traffic Safety Lights" to reduce the hazards at certain locations.



Street Light Operations:

During the year, 319 new lights were installed in the various districts throughout the City.

At the close of the year, 27,350 lights were in service, 2,086 being jointly-owned with the Pacific Gas and Electric Company, 18,864 wholly-owned by that company, and 6,400 wholly-owned by the City.

Street lighting operations for the year totaled $977,778.34. This total includes operation and maintenance cost for all lighting equipment in streets, parks, viaducts, tunnels and underpasses. The increase over last year's expenditure of $865,509.42 was due to opening of new streets and subdivisions, increased cost of damages to city-owned street lighting equipment, and cost for stock and office equipment.

With the cooperation of the Police Department, interested citizens, the Pacific Gas and Electric Company, and also field inspection by this Bureau, the number of lights reported out of service totaled 25,706, representing a saving of $2,276.98 in outage credits.

The number of outages decreased from 27,545 in 1950-51 to 25,706 at the end of June, 1952. This decrease was due to changing standard lamps of 1,500 burning hours to group replacement lamps with 3,000 burning hours; also, the creation of 12 new street lighting districts with each lamp changer responsible for his area. This should further reduce outages for the fiscal year 1952-53.

Engineering, Construction

Following is a list of major streets on which new lights were installed this fiscal year:

Lagunda Honda Blvd., Lawton St. to Plaza St.
19th Avenue Extn., Sloat Blvd. to Worcester Avenue
Mission St. Viaduct at Alemany Boulevard.
Bay Shore Boulevard, Marin St. to Waterloo Street.
Woodside Ave., Idora Ave. to Laguna Honda Blvd., Part "B."
Bay Shore Boulevard Freeway Approaches at Army Street.
Stonestown Subdivision, Part 2.

The important function of supplying engineering and inspection services to other city departments, requesting technical assistance, is being continued by this Bureau and is frequently used by many city departments.

Gas and Electric Supply:

During the fiscal year, 9,859,334 cubic feet of natural gas, 1,956,000 pounds of steam, and 137,467,522 kilowatt hours of electricity were used for municipal purposes, exclusive of electric energy used for street lighting. The City paid $373,779.32 to the Pacific Gas and Electric Company for gas and steam, and the various city departments paid $1,541,741.99 to Hetch Hetchy for electricity.

The overall use of electricity (kilowatt hours) for municipal purposes shows an increase of 9.4 per cent as compared with 1950-51. This net increase is brought about by substantial increases in energy used by the Municipal Railway, Department of Public Works and the San Francisco Airport. Considerable increases were effected by five (5) other City and County departments.

The use of natural gas increased 10.3 per cent over last year, due to substantial increases by the Department of Public Works, San Francisco Unified School District, and the Sheriff's Office.

BUREAU OF LIGHT, HEAT AND POWER
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1951-1952

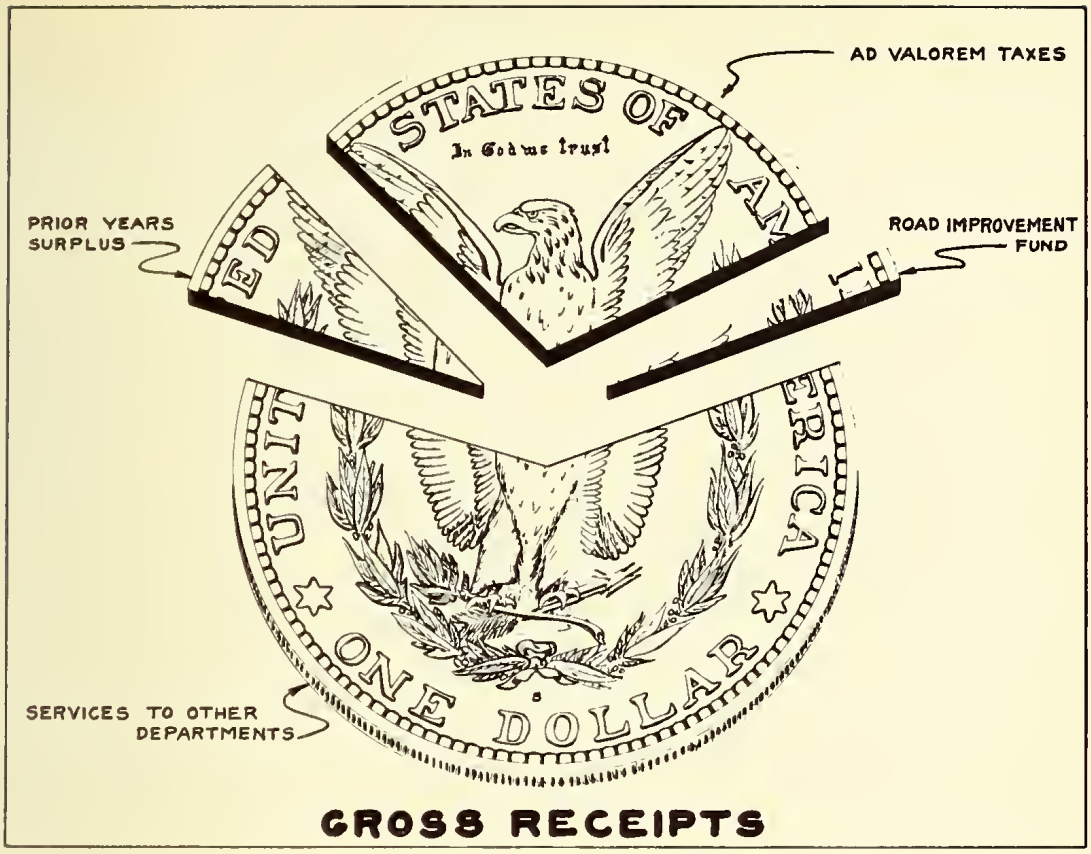
What We Received:

By Transfer from Other Current Funds for Electricity and Gas—Interdepartment	$ 1,871,326
Special Road Improvement Fund	26,000
Ad Valorem Taxes	1,099,031
Prior Year's Surplus	159,688
TOTAL RECEIPTS	$ 3,156,045

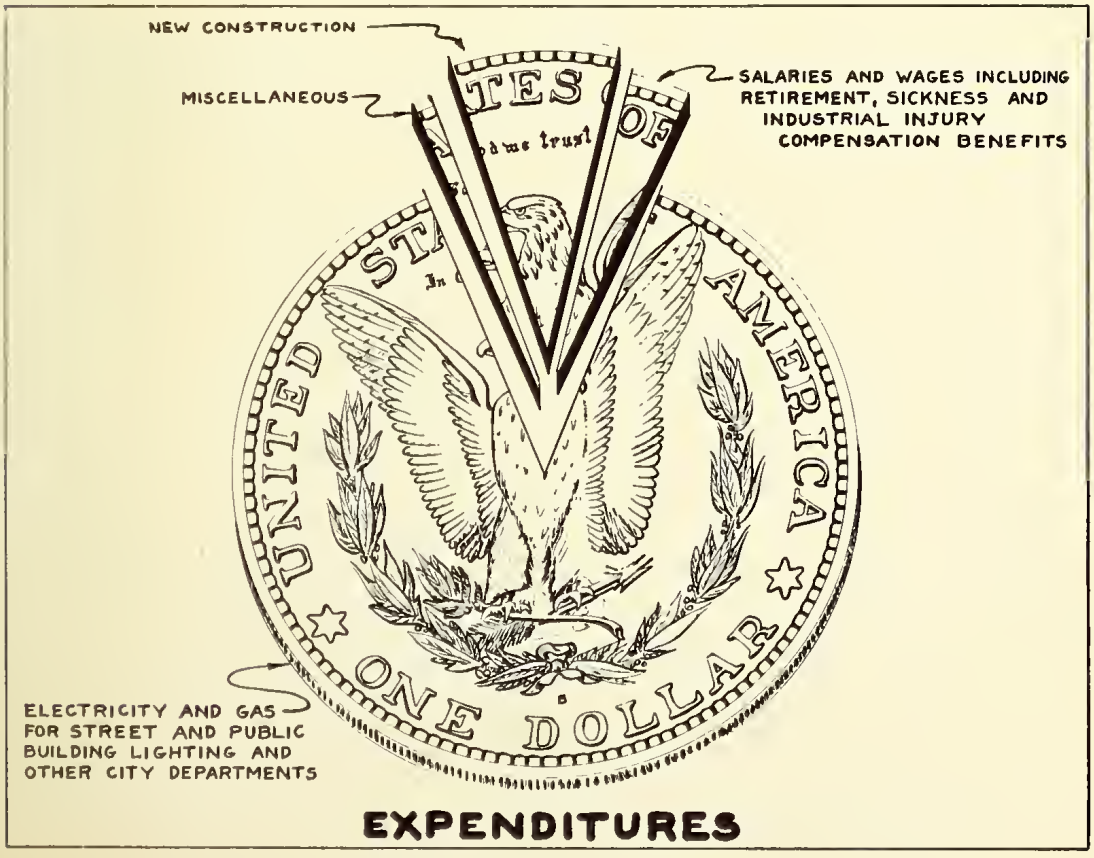
Where Money Went:

Salaries and Wages including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 95,242
*Miscellaneous	15,246
**Electricity and Gas for Street and Public Building Lighting and Other City Departments	2,768,685
New Construction	276,872
TOTAL EXPENDITURES	$ 3,156,045

*Contractual Services		$ 924
Maintenance and Repair of Structures		12,284
Material and Supplies		1,908
Insurance		130
		$ 15,246
**Electricity and Gas—Interdepartmental		$1,871,326
Public Building Lighting		38,048
Lighting of Public Streets		859,311
		$2,768,685



GROSS RECEIPTS



EXPENDITURES

The "Cow Pasture" Airport of 1927, above, developed into one of the world's finest by 1952, below.

SAN FRANCISCO AIRPORT

Brief History:

The last day of the fiscal year marked the close of the first twenty-five years of operation of the San Francisco Airport—years of progress during which the Airport developed from a base for adventurous flyers into an industry and service that affects the lives of everyone in the Bay Area.

San Francisco had always been important in aviation, so it was natural that her citizens approved the establishment of an Airport in 1926. May 7, 1927, the first "cow pasture" airport was dedicated, although regular operating personnel were not on hand until July 1, 1927.

Located after a meteorological survey to find the best site, weather-wise, that was closest to San Francisco, the Airport got off to a slow start because of a few bad breaks, but, in 1932, it became the charge of the newly-formed Public Utilities Commission and began to attract more business.

From 1932, it has been a race in which the Airport, as well as all other air terminals, tried to keep pace with the strides being made in the development of aircraft. Through the vision of the San Francisco Airport now ranks as one of the finest such facilities in the world.

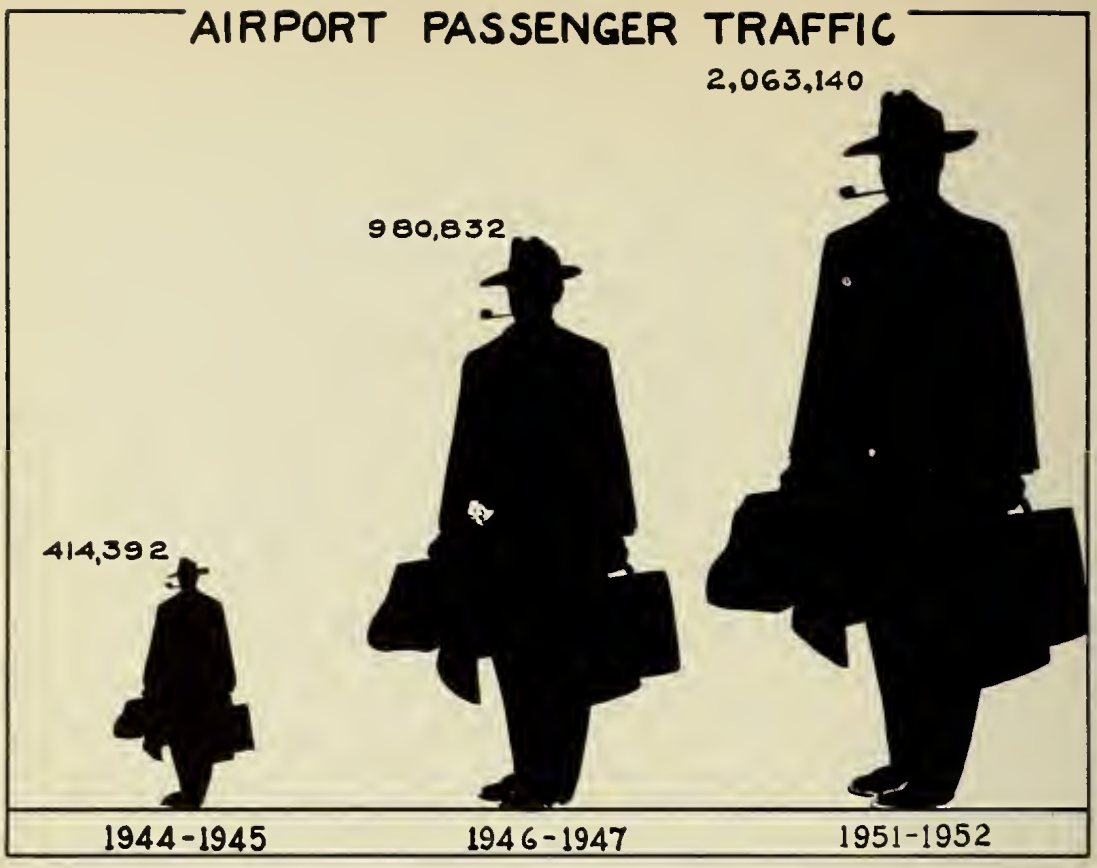
Refuting the reputation of San Francisco as a "fog town," the Airport boasts a record of almost 99 per cent in completed scheduled flights, so that service into this area is seldom shut down.

Within two years the capital investment in the Airport will have reached 50 million dollars, of which the citizens of San Francisco will have contributed 35 million dollars, with the remainder having come from private capital and the federal government. This investment has proven a wise one as the economic value of the Airport to the community now amounts to $75,000,000 each year. (See section of this report under heading, "Doolittle Commission.")

Private enterprise has invested close to eight million dollars in capital improvements and will soon increase this total.

PASSENGER TRAFFIC—The most spectacular aspect of Airport operations this year, as it has been since the end of World War II, is the steadily increasing volume of passengers using these facilities. In 1951-52, a total of 2,063,190 passengers came in and out of the Airport as compared with 1,708,040 in 1950-51. This represents a 20.8 per cent increase. The number of airline trips increased from 90,794 in 1950-51 to 104,847 in 1951-52, a 15.5 per cent increase. There was also a 34.7 per cent increase in mail pounds carried, and a 3.9 per cent increase in freight pounds carried in the comparison of the two fiscal years. Total freight handled this year was 36,873,116 pounds.

The tremendous growth of air travel is perhaps even better illustrated by the fact that the over two million passenger volume handled this year is DOUBLE that handled in 1948-49, just four years ago. Much of the increase can be attributed to the effect of the Korean War and the increased travel of military personnel. Yet effective salesmanship on the part of airlines and the growing use of "tourist fares" must also be credited for some of the increase.



DOOLITTLE COMMISSION—As a result of several unfortunate accidents in the East, the President appointed a special commission to investigate (as to the location and safety of operations) major U. S. airports. Lt. General James H. Doolittle was appointed chairman of this group. At the request of the Commission, the Airport compiled comprehensive data on its operations and submitted such data to the Commission when it visited this field on April 2, 1952.

While most of the data was of a highly technical nature, some of the financial information was very revealing. For example, a thorough analysis of the accounts of the various employers who are tenants of the field, as well as a very few conservative estimates where information was not available, demonstrated that private enterprise at the Airport is responsible for 75 million new dollars coming into the economic channels of our community each year. This was broken down as follows:

Private industry payrolls	$33,000,000
Private industry purchases of goods and services in the community	17,000,000
Amounts spent by air passenger visitors	25,000,000
Total	$75,000,000

General Doolittle and the other commission members seemed impressed by the location and the operations of the San Francisco Airport, as well as by its safety record. The Commission was helpful to Airport Management by hearing from a group of San Bruno residents who have complained about the noise from aircraft taking off under certain conditions from this field. A major part of the noise, however, comes from trans-Pacific aircraft which necessarily have to pass above their homes in order to achieve the greatest safety for all concerned.

SAN FRANCISCO AIRFORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATIONS

REVENUE PASSENGER ACTIVITIES

	Revenue Passengers In and Out		% Increase Decrease	Revenue Passengers On and Off		% Increase Decrease
	1950-1951	1951-1952		1950-1951	1951-1952	
July	155,411	168,440	08.4	123,742	130,869	05.8
August	160,498	184,946	15.2	125,747	144,279	14.7
September	151,805	173,834	14.5	118,940	134,159	12.8
October ..	147,988	171,974	16.2	115,229	133,496	15.9
November	118,711	159,198	34.1	95,118	123,273	29.6
December	124,575	162,419	30.4	96,284	119,467	24.1
January ..	128,530	152,859	18.9	98,702	117,292	18.8
February..	120,235	151,413	25.5	93,581	116,226	24.2
March	152,959	170,162	11.5	120,566	128,504	06.58
April	143,522	186,535	30.0	113,583	143,681	26.5
May	152,227	189,001	24.2	118,975	146,843	23.4
June	151,579	192,409	26.9	119,587	158,389	32.4
	1,708,040	2,063,190	20.8	1,340,054	1,596,478	19.1

SAN FRANCISCO AIRPORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATIONS

AIR MAIL AND AIR EXPRESS-FREIGHT

	Pounds of *Air Mail*		% Increase Decrease	Pounds of *Air Express-Freight*		% Increase Decrease
	1950-1951	1951-1952		1950-1951	1951-1952	
July	1,247,950	2,123,395	70.2	4,066,848	3,119,068	23.3
August	1,423,077	2,311,916	62.5	4,254,106	3,871,245	09.0
September	1,475,011	2,399,315	62.7	3,944,419	3,614,694	08.4
October....	1,627,567	2,795,163	71.7	3,890,494	3,754,049	03.5
November	1,779,357	3,150,538	77.1	3,615,270	3,523,664	02.5
December	2,681,673	4,094,473	52.7	3,847,217	3,952,126	02.7
January ..	1,898,650	2,759,612	45.3	3,067,260	3,540,231	15.4
February..	2,011,225	2,705,040	34.5	3,694,704	3,321,493	10.1
March	2,332,733	2,583,171	10.74	3,729,776	3,692,612	01.0
April	2,092,629	2,364,770	13.0	3,076,245	3,282,660	06.7
May	2,948,723	2,347,043	20.4	3,679,645	3,417,245	07.1
June	2,117,614	2,202,720	04.0	2,980,214	3,425,512	14.9
	23,636,209	31,837,156	34.7	43,846,198	42,514,599	3.0

SAN FRANCISCO AIRPORT
AIRCRAFT MOVEMENTS

	AIR CARRIER		%	ITINERANT		%	LOCAL		%	TOTAL		%
	1950-51	1951-52	Increase Decrease	1950-51	1951-52	Increase Decrease	1950-51	1951-52	Increase Decrease	1950-51	1951-52	Increase Decrease
July	7223	9238	27.9	1926	1925	.05	1862	2389	28.3	11011	13552	23.1
August	7840	8956	14.2	1885	1869	.8	2045	2332	14.0	11770	13157	11.8
September	7505	9723	29.6	1649	1790	8.6	2224	2373	6.7	11378	13886	24.6
October	7103	9703	36.6	1472	1570	6.7	1624	2041	25.7	10199	13314	30.5
November	6883	8005	16.3	1051	1163	10.7	1486	1652	11.2	9420	10820	14.9
December	6899	8647	25.3	870	971	11.6	1927	1630	15.4	9696	11248	16.0
January	7149	8726	22.1	849	1119	31.8	2083	2264	8.7	10081	12109	20.1
February	6555	7319	11.7	1391	1288	7.4	2867	2345	18.2	10813	10952	1.3
March	8402	8390	00.01	1606	1565	2.6	2855	2612	8.5	12863	12567	2.3
April	7778	8776	12.8	1457	1717	17.8	2147	2127	.9	11382	12620	10.9
May	9561	8611	09.9	1720	1717	.2	2640	2511	4.9	13921	12839	9.4
June	7896	8753	10.0	1680	2019	20.2	1888	2318	22.8	11464	13090	14.2
	90794	104847	15.5	17556	18713	6.6	25648	26594	3.7	133998	150154	12.1

CONSTRUCTION—While details of construction for the Airport are in the report of the Hetch-Hetchy Engineering Department which supervises such construction, no report on the Airport itself would be complete without mentioning several such jobs.

RADAR TOWER

The big job — construction of the new passenger terminal—got under way in earnest in October 1951 at which time pile driving was begun. The work proceeded at a good pace until around the middle of March 1952 at which time strikes of the pile drivers and the carpenters halted work on this facility completely. Strikes continued for 75 days; however, everything possible will be done to finish the job on time. By July 1st, however, the first evidences of a building were beginning to rise above the earth at the site of the new terminal, and it was anticipated that by early 1953 the steel frame of the six-story structure would be erected.

During the year work was begun on a new taxiway in front of the new building and additional warm-up mats for several runways.

In keeping with its desire to be of real service to private flyers, the Airport opened during the year a new itinerant pilots building at the private aircraft parking area. This new building has a lounge, a log room, telephone facilities and rest rooms. It offers a real convenience for private flyers. These private flyers are constantly being urged to utilize the San Francisco Airport by Airport management. The only requirement is that such aircraft have two-way radio.

Other construction work of interest was the erection of a mainteance storage shed as part of the Airport's corporation yard so that certain materials which previously had to be stored outdoors can now be protected from the weather.

A modern street lighting system was installed on the new access road from the highway to the Trans-Pacific Terminal.

By the end of the fiscal year the surveillance radar system was being installed by the Civil Aeronautics Administration. The surveillance radar will afford the control tower operators an additional facility to improve and expedite the operation of aircraft under adverse weather conditions.

FOR THE DARING

In 1927, when the Airport opened, this airplane was the latest thing in passenger ships.

FOR THE FAMILY

Now, the sleek Super Constellation, above, provides living room comfort and fast, reliable service.

RATES AND CHARGES—In preparation for the occupancy of the new passenger terminal building in December 1953, Airport management has been conducting a continuing study of rates and charges for consideration by the Public Utilities Commission. The Public Utilities Commission is making every effort possible to attain financial self-sufficiency for the Airport.

CIVILIAN DEFENSE—The San Francisco Airport, as an integral part of the State-wide civilian defense system, and as a vital part of the San Francisco civilian defense activites, is cooperating fully with the Director of the Disaster Corps of San Francisco.

NEW SERVICE—In July 1951 Pacific Southwest Airways inaugurated service from San Francisco to Burbank and San Diego. At the end of the fiscal year, California Hawaiian Airlines was preparing to inaugurate service from San Francisco to Hawaii. This brings the total of scheduled air carriers operating from this Airport to fourteen.

FINANCIAL—While complete financial information is included in detail at the end of this airport section of this report, it should be mentioned briefly that the Airport achieved an actual surplus of $220,993.33 over the amount budgeted for the 1951-52 fiscal year. This surplus was made up of $141,263.90 increase in revenue over what was anticipated and a saving of $79,729.43 in actual expenditures.

For the year, exclusive of bond interest and bond redemption, actual expenditures totalled $737,252.31 as compared with actual revenues of $993,259.90.

INDIVIDUAL SERVICE

A new private pilot's building enables these flyers to check weather, do ground calculations in quarters adjacent to aircraft parking area.

AIRPORT BIRTHDAY

On its 25th Birthday, Airport shared its cake with members of Columbia Park Boys Club. Cutting cake is PUC president, Oliver M. Rousseau. Left to right, Com. Sam McKee, Airport Manager George Dixon, Com. Donald A. Cameron, Com. Edward B. Baron. Faces obscured are Chamber of Commerce officers J. W. Mailliard III and Elmer Schlesinger. Chamber presented the cake.

GROUNDBREAKING

Impressive ceremonies marked groundbreaking in October, 1951, for new passenger terminal. Mayor Elmer E. Robinson welcomed guests.

NEW PASSENGER TERMINAL

An artist's conception of the new terminal which will be one of the finest in the world.

Miscellaneous Facts About San Francisco International Airport

• There are fourteen certificated airlines using the San Francisco Airport. Some of these airlines lease large ground areas and build their own hangars and other structures. Other airlines rent structures from the City.

• There are no "individual airports" for individual airlines. All the airlines use the one airport, although there is one terminal for international traffic and one terminal for domestic traffic. Both these functions will be combined in the new terminal now under construction.

• In the total number of air carrier flights per month, San Francisco and Los Angeles switch back and forth between fourth and fifth spots among the Nation's airports. New York, Washington and Chicago are the top three airports.

SAN FRANCISCO AIRPORT
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1951-1952

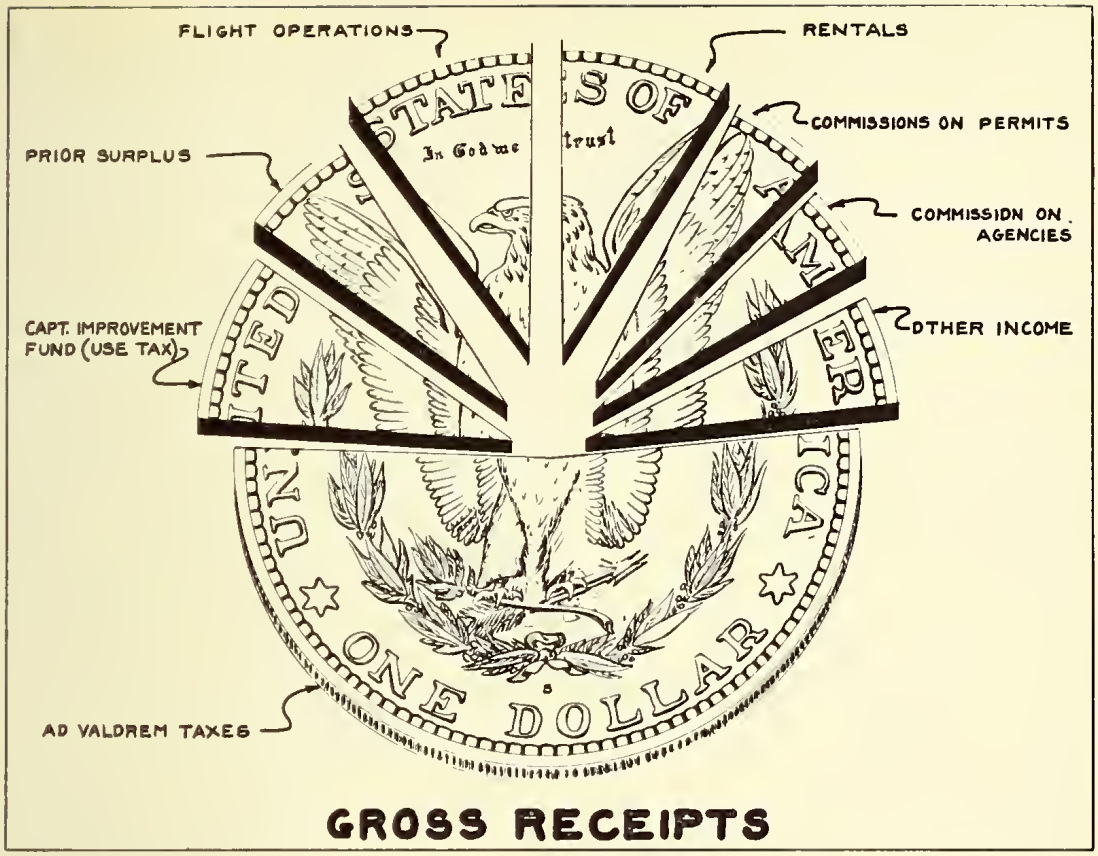
What We Received:

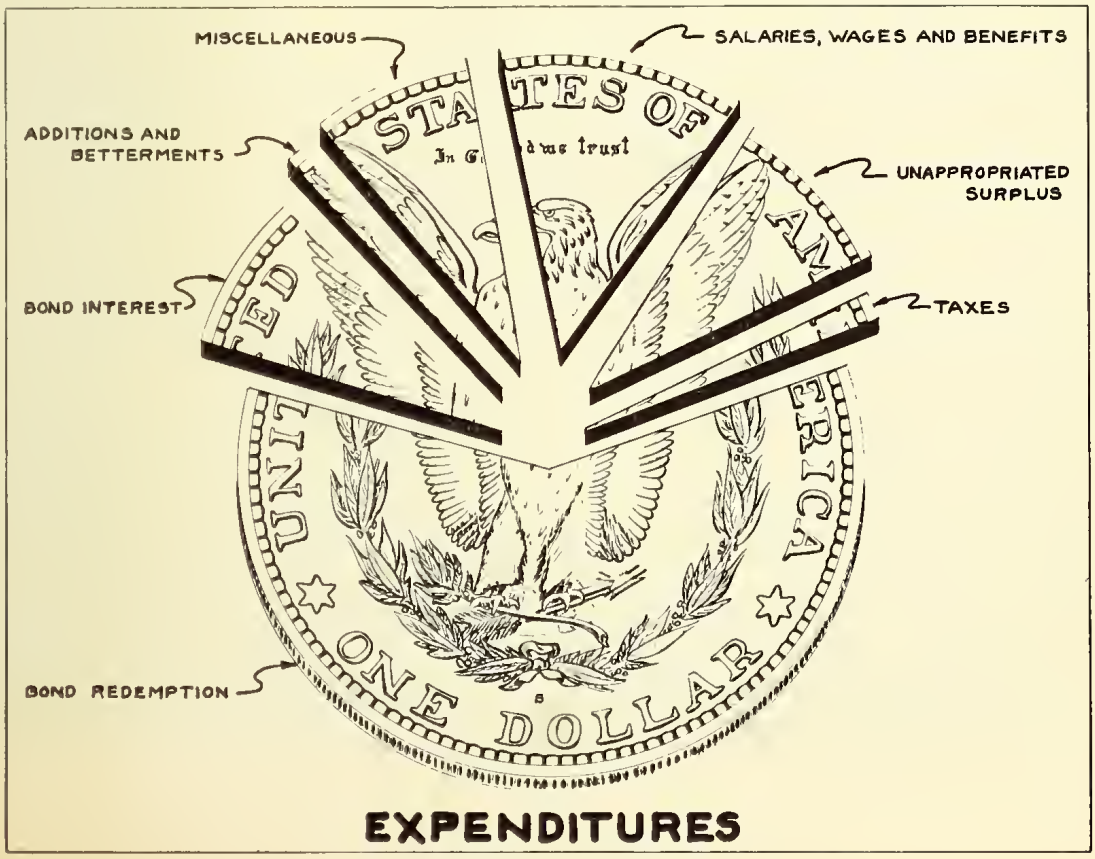
Air Carrier Flight Operations	$ 293,518
Rentals	276,683
Commission on Permits Outside Passenger Terminal Building	155,018
Commission on Agencies	104,318
Other Income	163,723
TOTAL REVENUE	$ 993,260
Prior Year's Surplus	$ 174,977
Capital Improvement Fund (Use Tax)	282,625
Ad Valorem Taxes	1,467,075
TOTAL RECEIPTS	$ 2,917,937

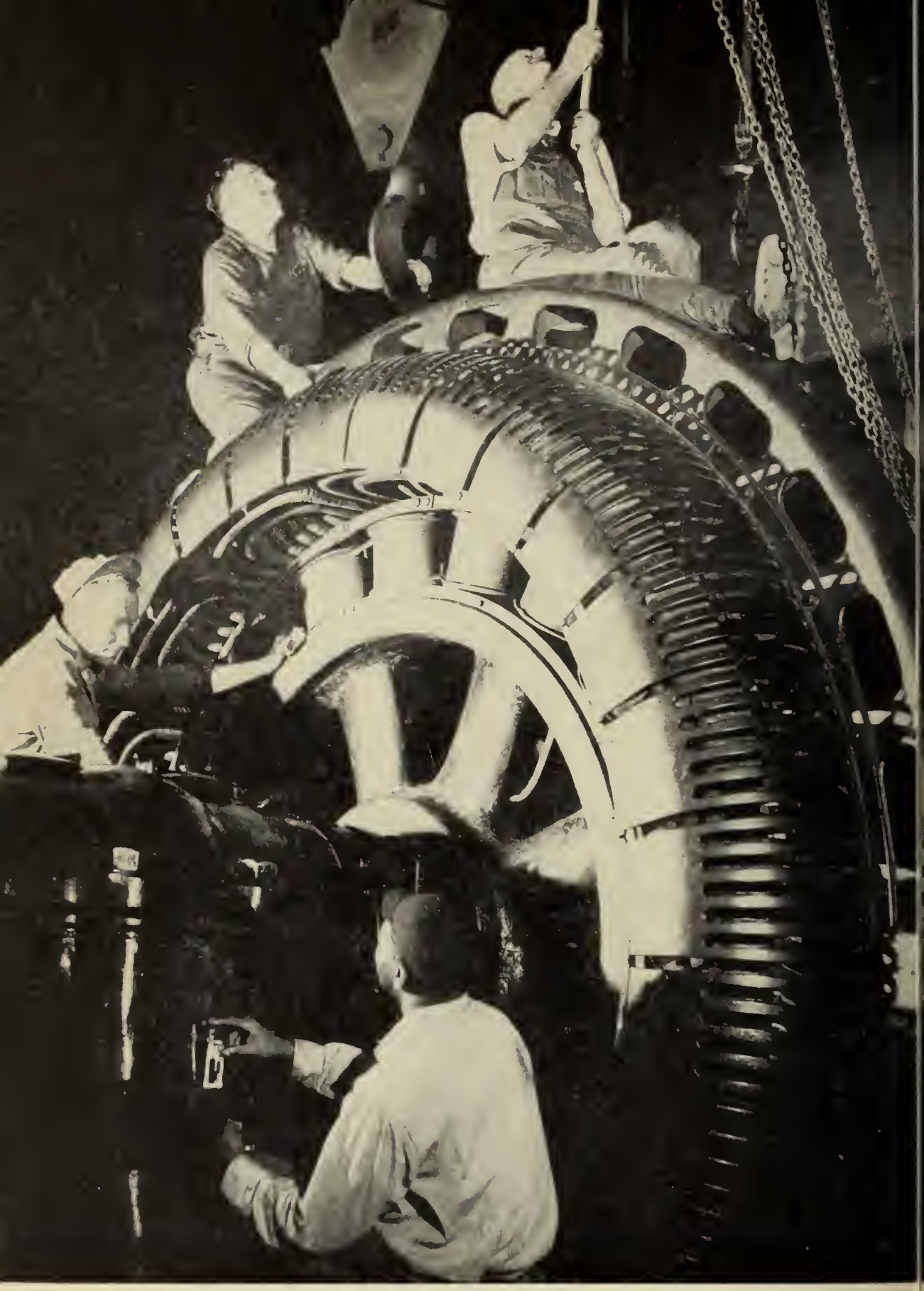
Where Money Went:

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 463,184
*Miscellaneous	259,842
Taxes	12,761
Additions and Betterments	1,465
Bond Interest	261,692
Bond Redemption	1,698,000
TOTAL EXPENDITURES	$ 2,696,944
Unappropriated Revenues Transferred to Surplus	220,993
	$ 2,917,937

*Contractual Services	$ 61,763
Heat, Light and Power	156,846
Material and Supplies	24,643
Insurance	15,555
Other	1.035
	$259,842


FLIGHT OPERATIONS
RENTALS
COMMISSIONS ON PERMITS
PRIOR SURPLUS
COMMISSION ON AGENCIES
CAPT. IMPROVEMENT FUND (USE TAX)
OTHER INCOME
AD VALDREM TAXES
GROSS RECEIPTS


MISCELLANEOUS
SALARIES, WAGES AND BENEFITS
ADDITIONS AND BETTERMENTS
UNAPPROPRIATED SURPLUS
BOND INTEREST
TAXES
BOND REDEMPTION
EXPENDITURES



BIG WHEEL

Time out for repairs on part of vital machinery in Municipal Railway substation which converts electric power for use on the trolley lines.

HISTORY OF MUNICIPAL RAILWAY

The Municipal Railway was founded by the City and County of San Francisco in compliance with the general policy embodied in the City Charter that utilities shall be municipally owned and operated. The Railway began operations December 28, 1912.

It was a popular enterprise from the start. By 1944 it had accumulated a two million dollar surplus which was used as down payment on the $7,500,000 purchase price of the old Market Street Railway. The purchase of this property, quite frankly termed a "bunch of junk" by those advocating the purchase, was prompted by the dire need for transit in San Francisco during the war when workers had to be moved efficiently to and from their jobs. The old Market Street Railway was not accomplishing this task. The electorate approved purchase of the private company in May, 1944, and consolidation was effected September 29, 1944.

The basic fare of the railway has risen from a straight five cents to 15 cents. It was raised from five to seven cents at the time of consolidation; to 8⅓ cents token fare May 20, 1946, to ten cents January 26, 1949, and to 15 cents on June 1, 1952.

SERVICE

In the almost five years since 1947 when the Municipal Railway began a tremendous program of rehabilitation with a $20,000,000 bond fund approved by the electorate, there has been one major yardstick by which the Public Utilities Commission and the Railway management have measured their plans. That yardstick has been and still is —service to the riders within reasonable financial limitations.

How could seating capacity be increased? How could frequency of vehicles be stepped up? Where do people want to go? These questions have been answered by the purchase and use of modern transit vehicles and by careful study of riding habits. How well they have been answered is attested to by the fact that the Municipal Railway service is acknowledged to be one of the finest surface transit systems in the country by those who have had an opportunity to make comparisons.

Perhaps the best illustration of the service rendered is the mileage operated. In 1945-46 the Railway operated 29,454,947 miles, and in 1951-52 it operated 29,310,602—**despite a 27.2 per cent drop in revenue passengers.** In short, the Railway is still operating the same number of miles for the benefit of less than three-quarters of the passengers who used the system in 1945-46.

This total mileage is run by more vehicles than five years ago, providing more seats and greater frequency of service.

Passengers and Money:

Like all other public transit systems, the Railway has been faced with a progressive decline in riders since 1945. In 1945-46, revenue passengers totaled 244,450,767, but this total dropped to 178,056 in 1951-52. 178,056,771

The principal cause of this loss of patronage has been the increased use of the private automobile. This is double-barreled trouble for the transit system because it reduces riders and, at the same time, increases traffic on the streets so that transit moves more slowly.

Another factor is the loss of Saturday business because of the almost universal adoption of the five-day week. Then the process in cities called decentralization (wherein businesses move outside a central area) causes longer hauls at greater cost.

Business has been concentrated to two rush-hour periods five days a week, possibly for twenty to twenty-five hours each week, but requiring full complement of vehicles and operators to handle these periods. About half of the equipment is idle at other times.

Again like all other transit companies, the Municipal Railway had to adopt a higher fare. June 1, 1952, the straight fare was raised from 10c to 15c, a rate which is still below the 17c, 20c and even higher fares in many cities.

As a result of the increased revenue of approximately 33 per cent derived from the fare increase, the results of operations for June, 1952, show a profit of $159,157.13—the first month in the past 68 months the Railway has shown a profit.

While the Railway required some tax support in 1951-52 (see table at end of section), it is likely 1952-53 will find the Railway completely self-sufficient.

BIG DAY

Neighborhood gathered for celebration when No. 28 coach line was extended in Park Merced area.

NEW WAITING STATION

At Phelan Loop, an attractive waiting station is provided Municipal Railway patrons.

California Cable Purchase:

In November of 1949 the electorate voted by a ten thousand vote plurality in favor of the purchase of the foundering California Cable Railway at a price of not more than $150,000.

Prolonged negotiation between the Public Utilities Commission and the cable raliway management failed to produce agreement as to the purchase price. Later, after the private company ceased to operate for lack of funds, negotiations were again pressed but became involved by several factors, including a company suit against the City for damages allegedly suffered by construction of the Broadway Tunnel, and City claiming the company owed substantial strees paving bills and other minor debts.

In December, 1951, the agreement was reached between the City and Company on a net price of $138,785.57. Operation was scheduled for December 10, 1951, but was further delayed by a legal action filed by a labor leader. This action was dropped December 20, 1951.

Operation finally commenced January 13, 1952 after emergency repairs by Municipal Railway crews to the out-of-service cable system.

Properties received from the company consisted of 44 cable cars, 10.44 miles of single trackage and the cable plant and building at California and Hyde Streets.

Changes:

There were many changes, major and minor, during the year, all designed to serve more people efficiently. Some of the major changes follow:

July 16, 1951, No. 15—In addition to local service, a limited stop motor coach service during peak periods from Geneva and Mission to downtown in morning and reversed during evening peak.

October 14, 1951, No. 47—Potrero-Van Ness converted from motor coach to trolley coach operation.

October 14, 1951, Nos. 71 and 72—New motor coach lines established to replace Nos. 20A and 20B for better service from Sunset District to downtown, including limited stop service.

October 14, 1951, No. 66—New trolley coach line established Motor Coach lines Nos. 78 and 79 for better service from inner Sunset District to Fifth and Market, including limited stop service.

January 6, 1952, No. 14—Motor coach service replaced by trolley coach for regular service, with motor coaches continuing to provide limited stop service.

May 18, 1952, No. 12—New trolley coach line established from Ferry Building via Mission Street, Ocean Avenue to Phelan loop at City College.

LEARNING THE RULES

Instructors give detailed explanations to new operators on how transfers can be used by passengers.

Proposed Bond Issue:

In June, 1952, the Railway's transit consultant, Col. Marmion Mills, submitted a program for completing the rehabilitation of the Railway which called for a bond issue of $6,620,000. By using the bond money for modernization of equipment it will be possible to effect a saving of $650,000 in operational expenses each year.

Pointing out the necessity of modernization in order to overcome the tremendous operating cost of old, inefficient equipment, Col. Mills in a report to the Public Utilities Commission referred to the savings in operational costs made possible by the $20,000,000 bond issue of 1947.

"Had there been no rehabilitation program," the Colonel said, "no twenty million dollar bond issue—the financial condition of the Municipal Railway would have been materially worse than at present. The cost of operation of the old system would have been greater than the actual cost of the converted system in the following amounts:

Year	Increased Cost
1948	$ 1,096,423
1949	2,513,619
1950	4,727,821
1951	4,989,532
TOTAL	$13,327,395

"By the middle of 1953, the $20,000,000 bond issue of 1947 will have paid for itself in savings and the new equipment and facilities will have many more years of useful life."

Note: The proposed $6,620,000 bond issue was put on the ballot at the November 1952 election and failed by only a few thousand votes of achieving the necessary two thirds majority.

Equipment:

As of June 30, 1952, the Railway owned 185 electric streetcars, forty being of the modern PCC type, fifty-five old type cars which have recently been modernized, and the balance ninety old-type but serviceable cars.

Of the 475 motor coaches now owned 380 are less than five years old, but the remaining 95 are over ten years old and should be replaced. This is one of the improvements scheduled under the proposed $6,620,000 bond issue. It will effect an annual saving in excess of $100,000.

Of the 398 trolley coaches owned 380 are new or less than four years old, the balance of 18 being 11 to 16 years old but still very serviceable.

The Railway owns seventy-four old cable cars, about thirty-seven of which are required for daily operation.

This makes a total of 1,132 transit vehicles owned by the Railway.

During the fiscal year, 40 new 48-passenger trolley coaches and 25 new PCC streetcars were received.

The Railway fleet is housed at six strategic locations around the city: trolley coaches at 17th and Potrero, and Presidio Yard; streetcars at Geary carbarn and Geneva carbarn; motor coaches at Ocean Avenue Yard and Kirkland Yard (near Fisherman's Wharf), and the Cable Cars at Washington and Mason cable carhouse and at the Hyde Street cable carhouse.

Personnel, Training and Safety:

A labor turnover of 30 per cent for platform personnel during the fiscal year inevitably resulted in some loss of efficiency. This high turnover rate is general throughout the transit industry and the San Francisco rate is comparable to that on other systems. The limited tenure program (no permanent civil service rank) started in March, 1951 has alleviated the situation somewhat, but even though 900 limited tenure applicants were processed, only 382 such employes remained on the payroll at the end of the year. The others failed to report to work or were terminated for cause.

As of June 30, 1952, the total number of Railway employes was as follows:

Platform	1,981
Equipment	652
Track	74
Office and Supervisory	395
	3,102

This is a reduction of eight employes from the previous year.

The operational accident rate, including passenger, traffic and certain miscellaneous types of accidents, was 24.69 per 100,000 miles of operation for the year, compared with 22.49 per cent for the previous year. That the increase was so small is considered a real accomplishment in view of the high labor turnover (36 per cent), the acquisition of the California Cable Railway and the increased exposure because of more private automobiles on the streets.

Claims Department:

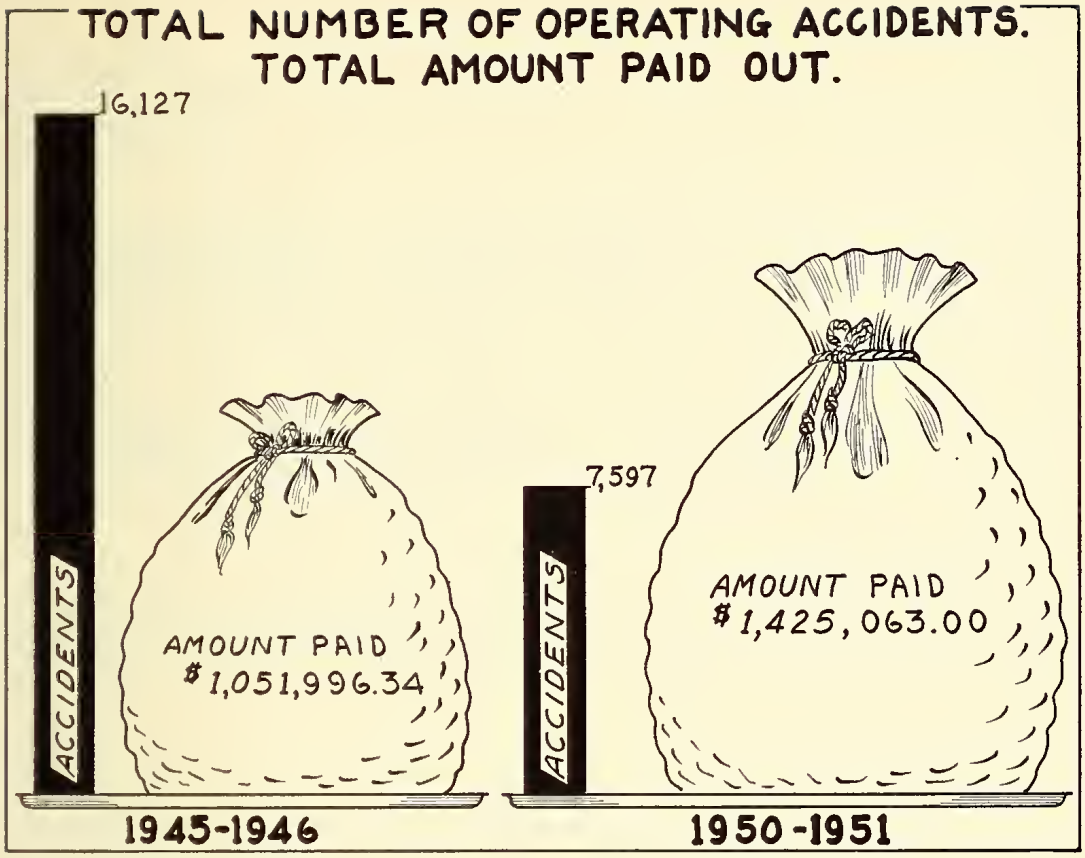
Despite the great reduction in the total number of accidents effected by the Railway in the past few years, the total cost to the system each year does not show a corresponding reduction, but, rather, is steadily increasing.

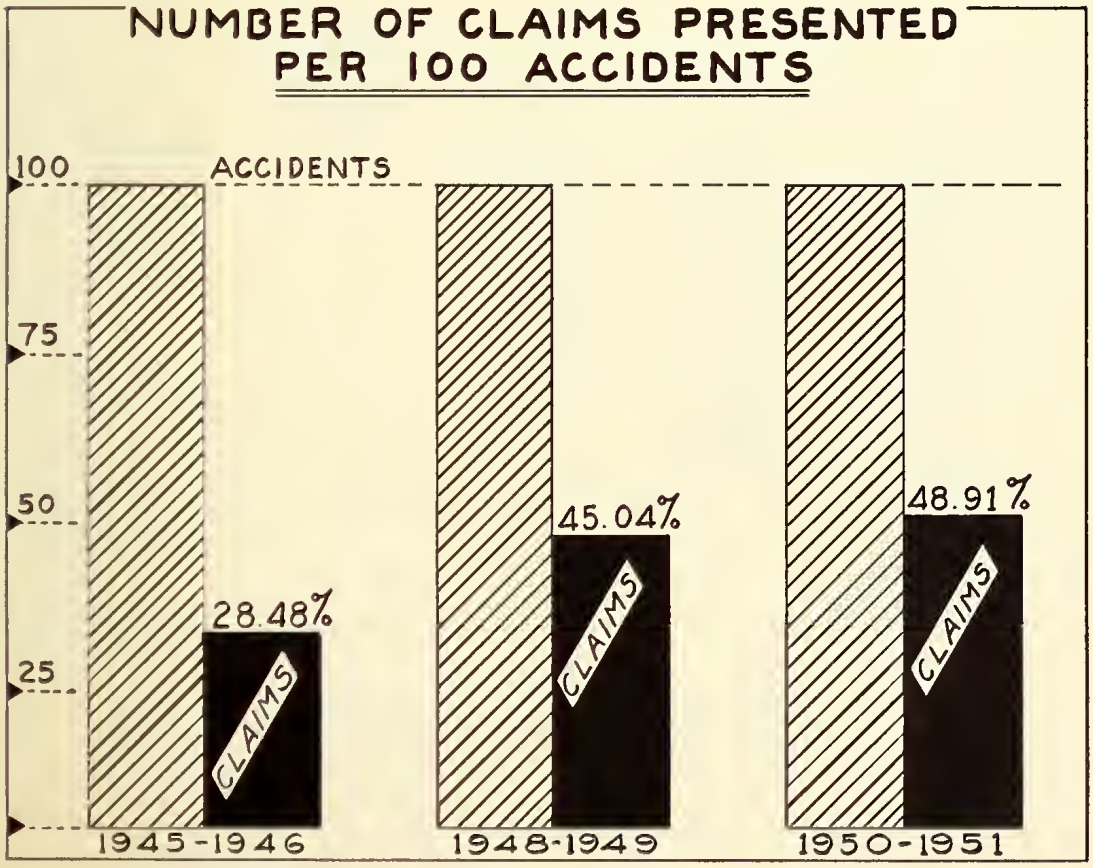
For example, in 1945-46 there were 16,127 accidents of all kinds and total payments of claims and allied costs amounted to $1,051,996. In 1951-52, there was a total of 8,226 accidents but the total cost was $1,582,740.

There are two major reasons for this. The first is that judges and juries are awarding much higher judgments against the Municipal Railway (and other large organizations) than was awarded in the past. The second and more important reason is that people have become "claims conscious." They are filing claims in more of the minor accidents than previously.

In 1945-46 there were 28.48 claims filed for each 100 accidents. This percentage has gradually increased so that in 1951-52, the ratio is 48.29 for operating accidents.

It is true that some of the total amount paid out each year goes for the settlement of claims originating in prior years, yet this seems inevitable because of crowded court calendars and appeals through the judiciary ladder.

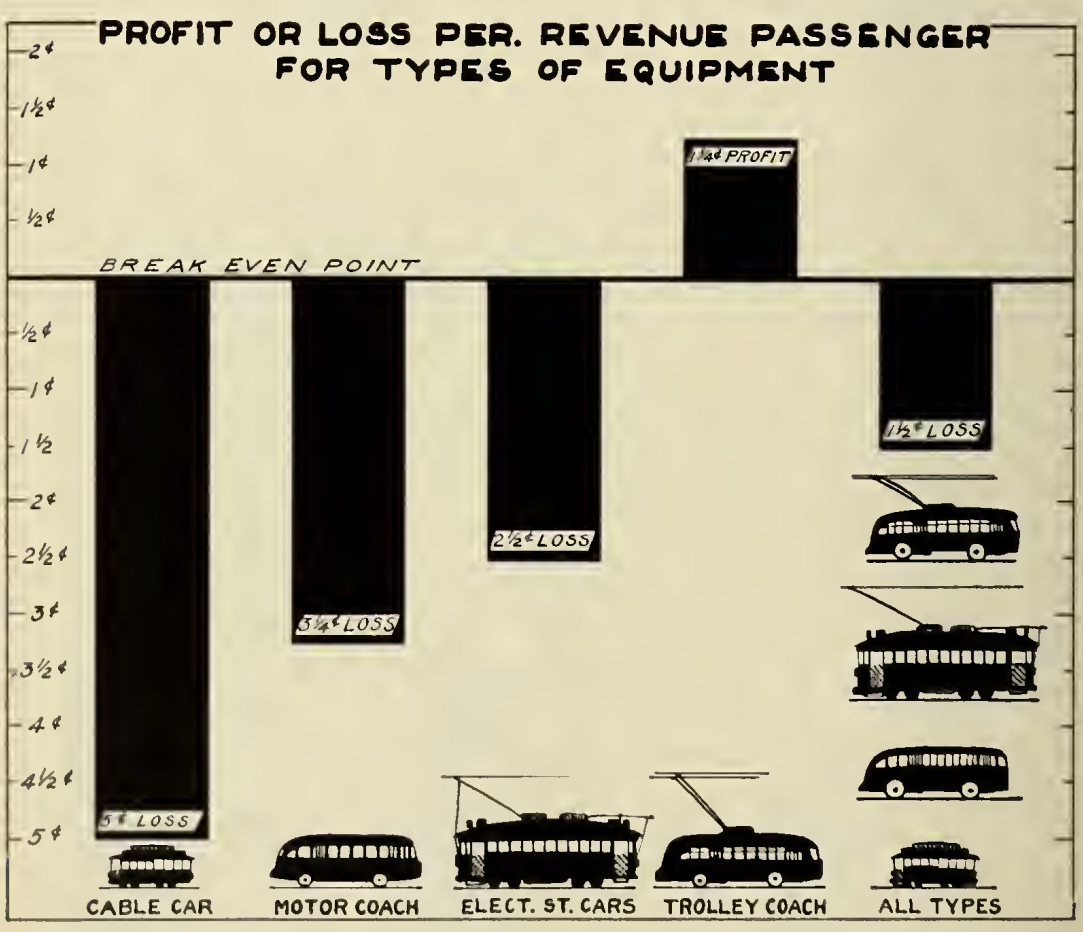

TOTAL NUMBER OF OPERATING ACCIDENTS.
TOTAL AMOUNT PAID OUT.
16,127
ACCIDENTS
AMOUNT PAID
$1,051,996.34
7,597
ACCIDENTS
AMOUNT PAID
$1,425,063.00
1945-1946
1950-1951

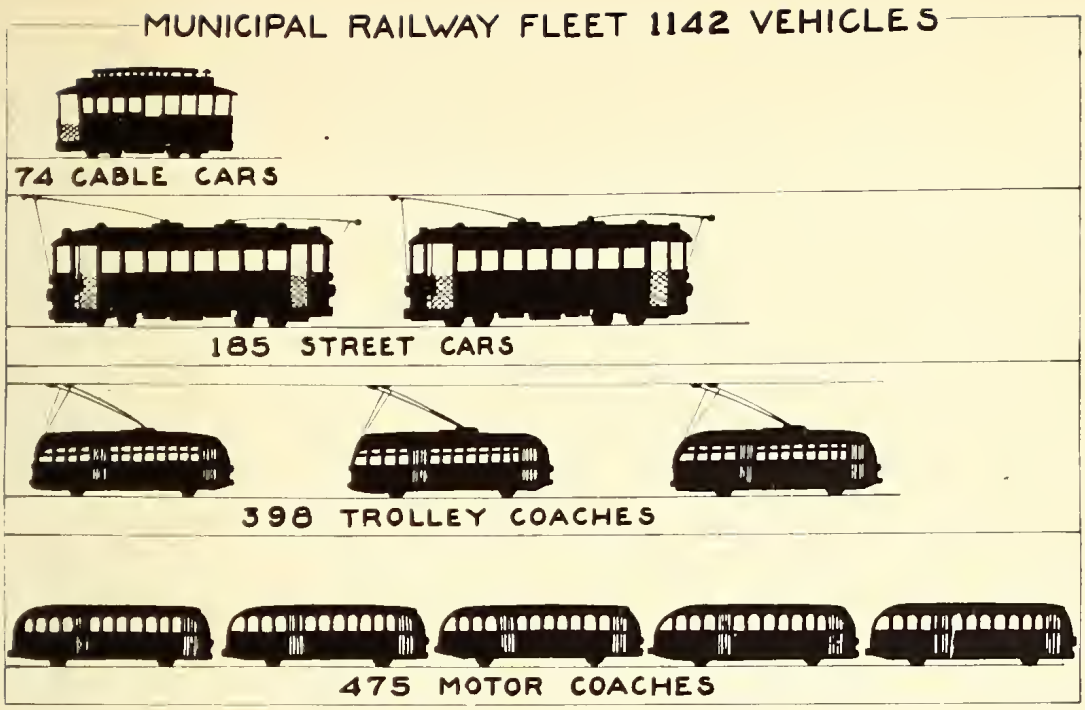

NUMBER OF CLAIMS PRESENTED
PER 100 ACCIDENTS
100
ACCIDENTS
75
50
25
28.48%
CLAIMS
45.04%
CLAIMS
48.91%
CLAIMS
1945-1946
1948-1949
1950-1951

Accident Reducers:

Recognition of merit on the part of operators has had a beneficial effect upon the accident rate. Two such methods of recognition are the Safe Driver Awards of the National Safety Council and the Muni Man of the Month Contest.

During twenty-nine months of the Safe Driver Award program through March, 1952, a total of 1,164 one-year and 382 two-year awards have been given personnel. So far 28 Muni Men of the Month awards have been earned by various operators, each of whom received a $50 present donated by the transit advertising firm of Fielder, Sorensen & Davis. These two awards stimulate courtesy and safe operation by personnel and tend to reduce accidents. The accident rate for the same 28-month period has gone down from 30 per cent to 24 per cent per 100,000 miles as of the first six months of 1952.





Miscellaneous Facts About Municipal Railway

• Charles D. Miller took over as general manager of the Municipal Railway August 1, 1951, succeeding William H. Scott, who retired. Mr. Miller has been in the street transit business all his adult life, starting as a helper to a streetcar repairman in 1908. He was Superintendent of Equipment for the Market Street Railway when it was purchased by the City in 1944.

• A system-wide strike of operators on the Municipal Railway was in effect from February 17 to February 22, inclusive. Strike attributed by unions to dissatisfaction over timetables.

• Since 1947, some 136 single track miles of old streetcar tracks have been removed from the City's streets, as well as about 30 miles of single track from abandoned rights of way. Removal of tracks from streets make possible smoother surfaces for smoother transit and private automobile rides.

• There's more "Express" or "Limited Stop" service being operated now than ever before. At end of fiscal year, "Express" service on five lines and "Limited Stop" service on eight lines was being operated.

• The centralized Information Bureau established during the year has proven extremely successful, rendering telephone information from 7 a.m. to 10 p.m. every day of the year. From February 4, when it was established, to June 30, 1952, the bureau handled 92,721 information calls.

MUNICIPAL RAILWAY
FINANCIAL RESULTS OF OPERATION
FISCAL YEAR 1951-1952

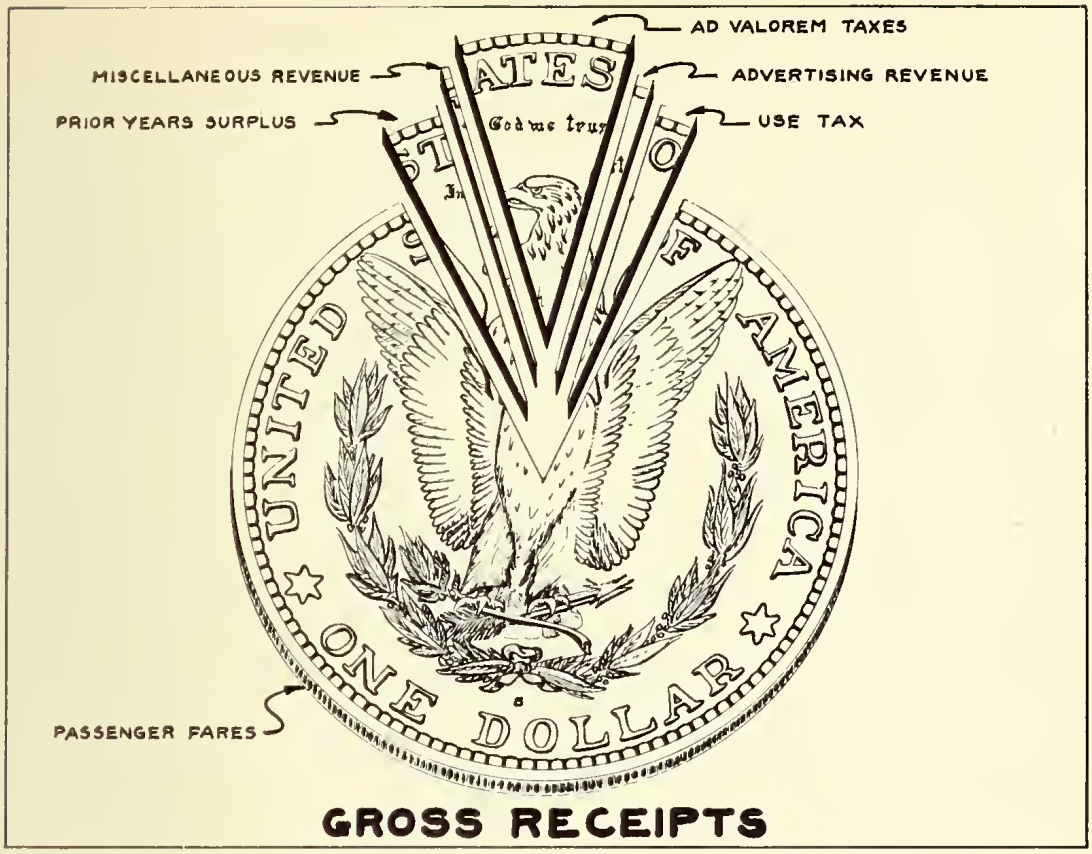
What We Received:

Passenger Fares	$18,077,038
Advertising Revenue	127,736
Miscellaneous Revenue	44,295
TOTAL REVENUE	$18,249,069
Prior Year's Surplus	694,114
Capital Improvement Fund (Use Tax)	487,133
Ad Valorem Taxes	1,896,984
TOTAL RECEIPTS	$21,327,300

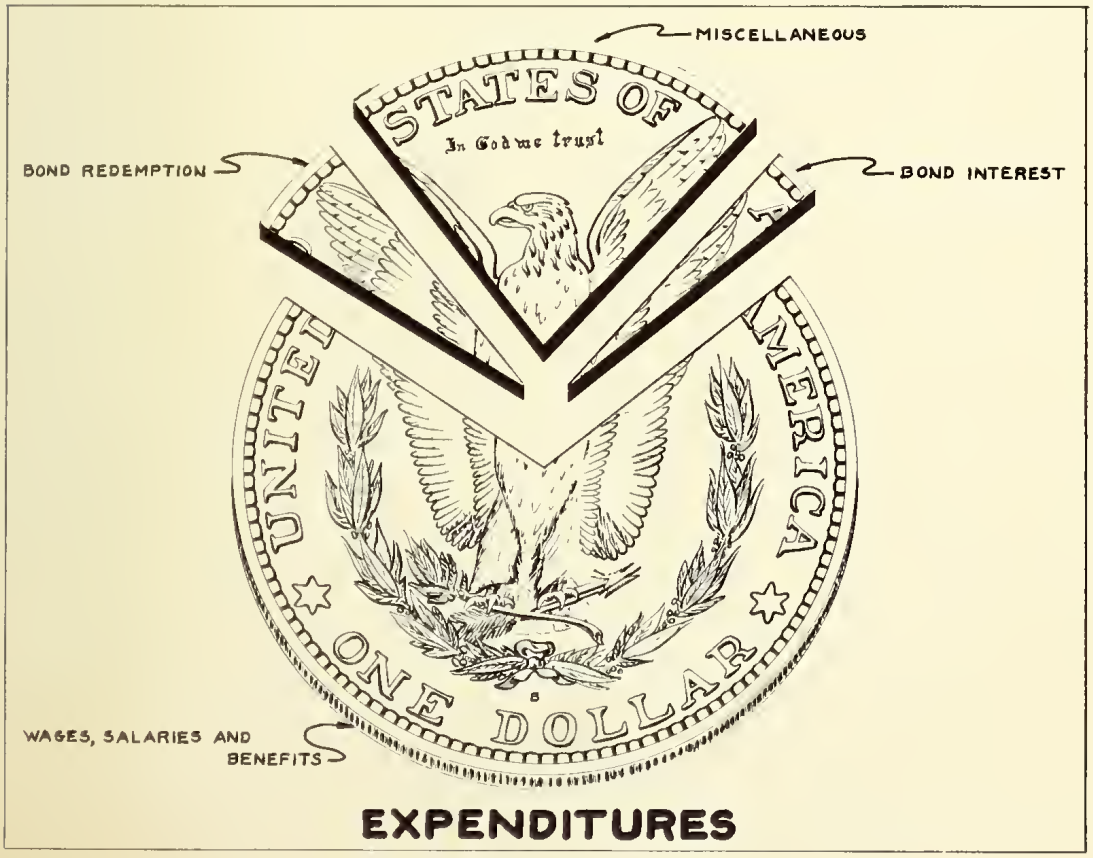
Where Money Went:

Salaries, Wages including Retirement, Sickness and Industrial Injury Compensation Benefits	$14,282,555
*Miscellaneous	4,785,599
Taxes	—o—
Bond Interest	346,408
Bond Redemption	1,501,000
TOTAL EXPENDITURES	$20,915,562
Unappropriated Revenues Transferred to Surplus	411,738
	$21,327,300

*Materials and Supplies	$1,986,579
Passenger and Damage Claims	1,140,939
Heat, Light and Power	700,409
Tire Rental	328,210
Other	629,462
	$4,785,599



GROSS RECEIPTS



EXPENDITURES

Published by
PUBLIC UTILITIES COMMISSION
OF
SAN FRANCISCO
Compiled by
Bureau of Public Service

THE TRADE PRESSROOM SAN FRANCISCO

SEAL OF THE CITY AND COUNTY
OF SAN FRANCISCO
ORO EN PAZ
FIERRO
EN GUERRA

PUBLIC UTILITIES COMMISSION

Annual Report

FISCAL YEAR 1952 - 1953

HETCH HETCHY WATER SUPPLY, POWER AND UTILITIES • ENGINEERING BUREAU • WATER DEPARTMENT
BUREAU OF LIGHT, HEAT AND POWER • SAN FRANCISCO AIRPORT • MUNICIPAL RAILWAY

ANNUAL REPORT

Published by Public Utilities Commission of San Francisco

Edited by Robert Rockwell Bureau of Public Service

ELMER E. ROBINSON
Mayor

OLIVER M. ROUSSEAU
Commission President

PUBLIC UTILITIES COMMISSIONERS

The Public Utilities Commission is appointed by the Mayor for a term of four years, the terms of the members being staggered. There are five members of the Commission which elects its own president and vice-president.

VICTOR S. SWANSON
Commission Vice President

SAM MC KEE
Commissioner

EDWARD B. BARON
Commissioner

DONALD A. CAMERON
Commissioner

JAMES H. TURNER
Manager of Utilities

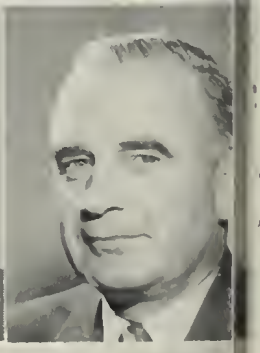
CHARLES D. MILLER
Manager, Municipal Railway

UTILITIES DEPARTMENT HEADS

The Manager of Utilities is appointed by the Public Utilities Commission and serves at its pleasure. He is the executive officer of the Commission. Utility department heads are appointed by the Manager of Utilities with the approval of the Commission.

GEORGE PRACY
Manager, Water Department

GEORGE DIXON
Manager, Airport



B. A. DEVINE
Manager, Light, Heat & Power

HARRY E. LLOYD
Manager, Hetch Hetchy

Annual Report

CONTENTS

	Page
Letter from Commission President	5
Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau	7
Water Department	17
Bureau of Light, Heat and Power	29
San Francisco International Airport	35
Municipal Railway of San Francisco	47

Letter from the President

Honorable Elmer E. Robinson
Mayor of City and County of San Francisco
City Hall, San Francisco

My Dear Mayor:

In accordance with the provisions of the City Charter, the Public Utilities Commission of the City and County of San Francisco herewith submits its annual condensed report covering activities and operations for the period beginning July 1, 1952 and ending June 30, 1953.

Under City Charter authority the Public Utilities Commission has control of and jurisdiction over the construction, management, maintenance, extension and operation of all public utilities owned, leased or used by the City and County of San Francisco. These utilities are the Municipal Railway; the San Francisco Water Department; Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau; the San Francisco Airport Department, and the Bureau of Light, Heat and Power. In addition, there are three service bureaus comprising the Bureau of Accounts, Bureau of Safety and Personnel, and the Bureau of Public Service.

Detailed accounts of the activities and operations of these various departments will be found in the succeeding sections of this report.

It is to be noted that your Honor reappointed Mr. Edward B. Baron as a member of the Commission to serve a second four-year term during the year.

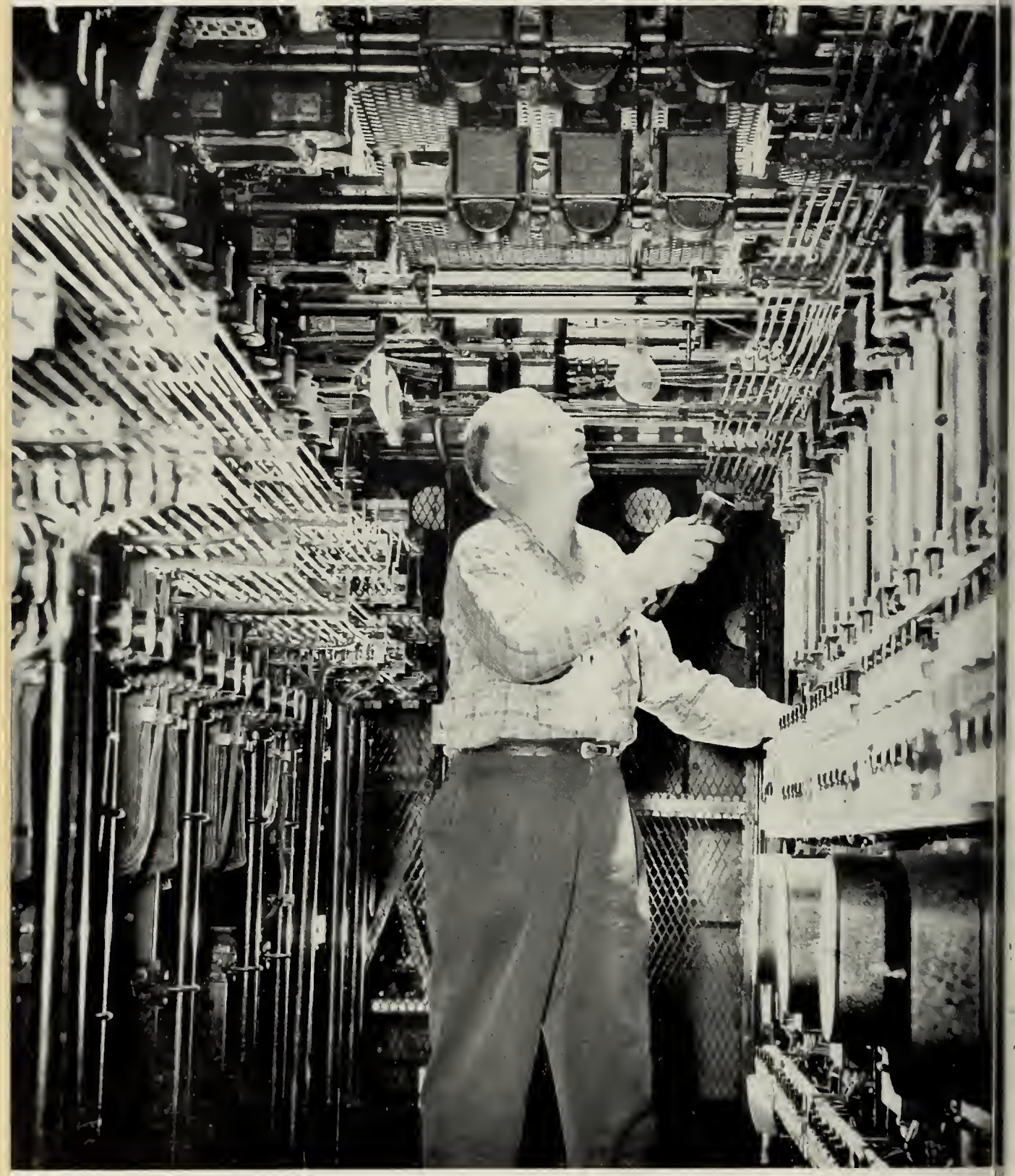
The Commission held 55 regular and special meetings during the year, in the course of which 11 public hearings were conducted.

A budget was adopted by the Commission for the year 1953-1954 in the amount of $54.148,220 and supplemental budgets totaled $111,887.

The various utilities and properties entrusted to the guidance of the Public Utilities Commission by the citizens of San Francisco represent an appraised value in excess of $300,000,000! Truly a significant figure attesting to the wealth and progress of our city.

Respectfully submitted,

President,
Public Utilities Commission



An electrician's nightmare is this intricate assembly of wires, relays and metering transformers found in the switchboard of the Moccasin Power House.

Hetch Hetchy Water Supply

POWER AND UTILITIES ENGINEERING BUREAU

History of Hetch Hetchy

In 1900 a clause was inserted in the San Francisco Charter which stated that "its public utilities shall be gradually acquired and ultimately owned by the City and County."

Impelled by this mandate to take steps toward the acquisition of a municipal water supply, the Board of Supervisors ordered a survey of possible sources which resulted in the recommendation that the City try to acquire the Tuolumne River watershed as a supply. In 1901, under the leadership of Mayor James Phelan, permission was sought to build dams and reservoirs at Lake Eleanor and Hetch Hetchy both of which are in the Yosemite National Park under the jurisdiction of the Department of Interior.

Many years were spent in vain attempts to get the clear cut rights necessary and successive administrations seemed to have different ideas from their predecessors. Finally the City went to Congress itself for the necessary rights, and, in 1913, the Raker Act was passed and signed by President Woodrow Wilson. This gave San Francisco what it wanted.

Interrupted by World War I the City built the beginnings of the still incomplete Hetch Hetchy project. Lake Eleanor Dam was finished in 1918 and O'Shaughnessy Dam in 1923. The latter structure was raised to its present height in 1938. All the pipelines and the tunnel were built which were needed immediately, including the 25-mile-long Coast Range tunnel. In 1934 the first water from the Sierra Nevada mountains flowed to San Francisco.

Function and Purpose

The long name—Hetch Hetchy Water Supply, Power and Utilities Engineering Bureau—is a simple way to describe all the functions of this branch of the Public Utilities Commission. "Hetch Hetchy" is a corruption of an Indian name, "Hatchatchie" identifying the long grass which formerly grew in the valley now used as the system's principal impounding reservoir.

In the first capacity, the bureau has full charge of the Hetch Hetchy Water Supply and Electric Power system, being responsible for the administration, engineering, construction work, operation and maintenance of the system. In the second capacity, it performs engineering work for the Airport Department and the Municipal Railway, planning and supervising all new construction for those utilities and providing engineering service in connection with maintenance and reconstruction of existing facilities.

The water supply function is, quite simply, that of wholesaler of water to the San Francisco Water Department. It collects and delivers the major share

of the water distributed by the Water Department, which pays Hetch Hetchy for this service.

The power division sells the power generated to the various other municipal departments and miscellaneous customers.

Revenues from water and power sales, as well as from other City departments for engineering work performed, have made this bureau self-supporting since its creation in 1932.

Hetch Hetchy Water Supply

The precipitation and stream flow for the first nine months of the season 1952-1953 were considerably below the normal owing to unusually warm and dry weather during the months of February and March, 1953.

Runoff forecasts from snow surveys made during February and March 1953, showed that the anticipated April-July runoff would be approximately 65 per cent of the average amount experienced over 63 years of record. The situation was improved during April and May by above-normal precipitations and subnormal temperatures in the Sierra Nevada Mountains. The low temperatures slowed the melting of the winter snows at the higher elevations and delayed the spilling of Hetch Hetchy Reservoir until the last week in June, which is about a month later than usual. This gave a greater storage carryover into the period of low rainfall when storage is used.

The total yearly runoff of the Tuolumne River watershed for the season 1952-53 was 83% of the normal. This was sufficient to supply the needs of the Water Department and to run the powerhouse at Moccasin Creek.

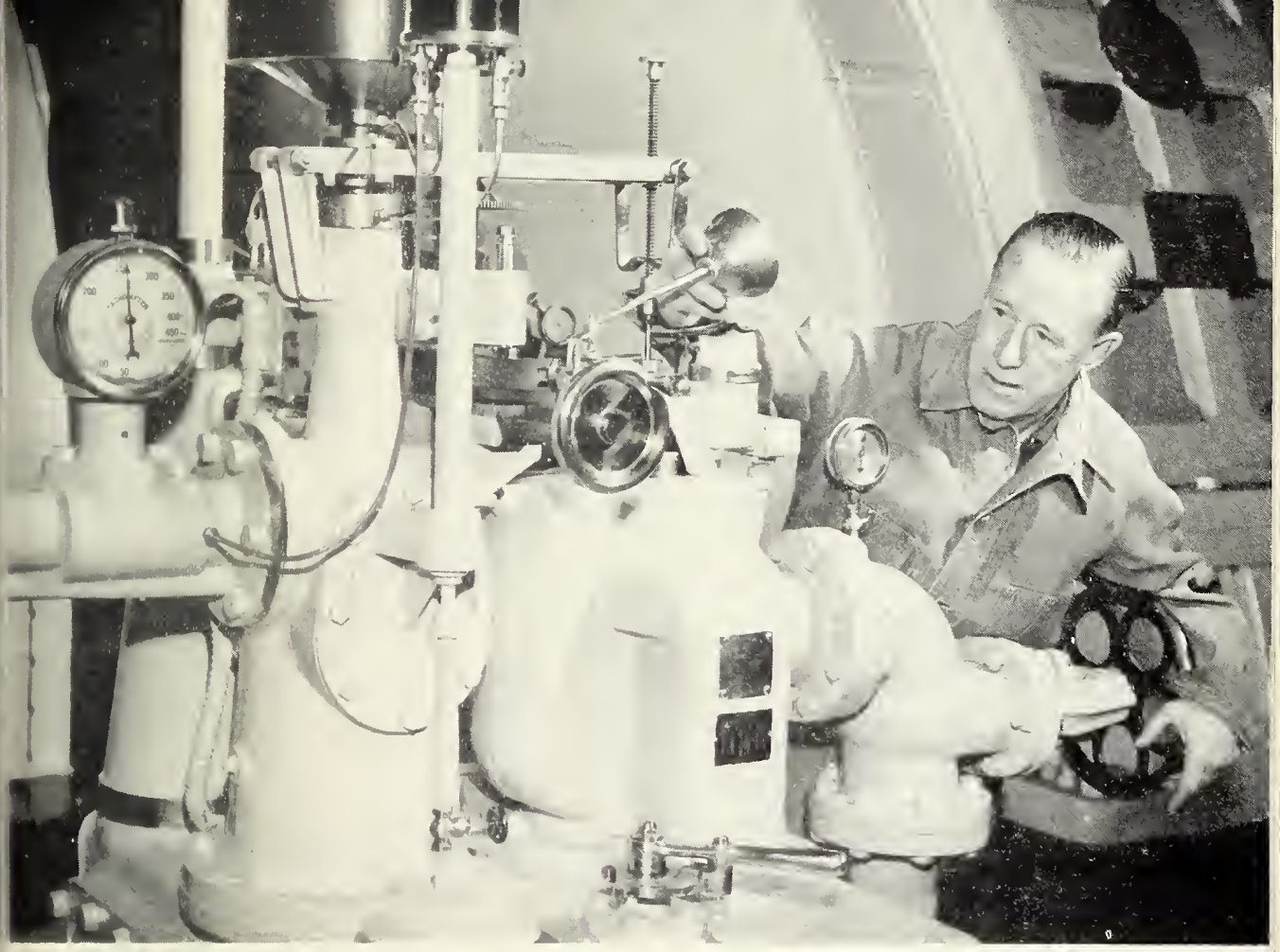
Transmission

San Joaquin Pipe Line No. 2, crossing the San Joaquin Valley, was completed this year, giving added capacity for delivery of water from the mountains. The pipe is approximately 47½ miles long, and has an inside diameter of 61 inches. A portion of the line is made of reinforced concrete pipe, and the remainder of steel pipe with a mortar coating inside and out. This line has been in partial use since the last fiscal year; with valve and liner plate work now complete, the new line is a regular feature of the Hetch Hetchy System.

The older pipeline (San Joaquin Pipe Line No. 1) is being re-lined with cement mortar. The first phase of this work was completed this year, and plans for the second phase, to be done in the next fiscal year, are substantially complete. It is expected that the re-lining work will add many years of useful life to the pipe.

Cherry River Project

Construction of the Cherry River Project continued throughout the year. Due to the relatively mild winter the contractors engaged on the project were able to make good progress during the winter and spring seasons.



If this water wheel governor were to stop revolving at 257 rpm some morning you would probably be late to work, if you use an electric clock. Constancy of these machines determines the speed of the water wheel which turns the electric generator and controls the action of all alternating current.

The access road from State Highway 120 to the dam site was completed. This road is 24 miles in length and about half of this length was new construction; the remainder consisted of the widening and improvement of existing roads and abandoned railroad grades. New bridges were required for the crossings of the Tuolumne and the Cherry Rivers. The availability of this access road was a major factor in enabling the work at the dam site to continue through the winter.

The power line from Early Intake Power House to Cherry Valley was also completed during this period. This power line, 10 miles in length, will supply electric energy at 22,000 volts, as required for the construction of the dam. Carrier telephone equipment and mobile radio equipment to provide communication to Cherry Valley were also installed and placed in operation.

Permanent Buildings Completed

Also completed were the permanent buildings for the operator's village at the dam site. These buildings will be used by the City's engineering and inspection forces during construction of the dam and will be available for use by the permanent employees required for the operation of the reservoir upon completion of the project.

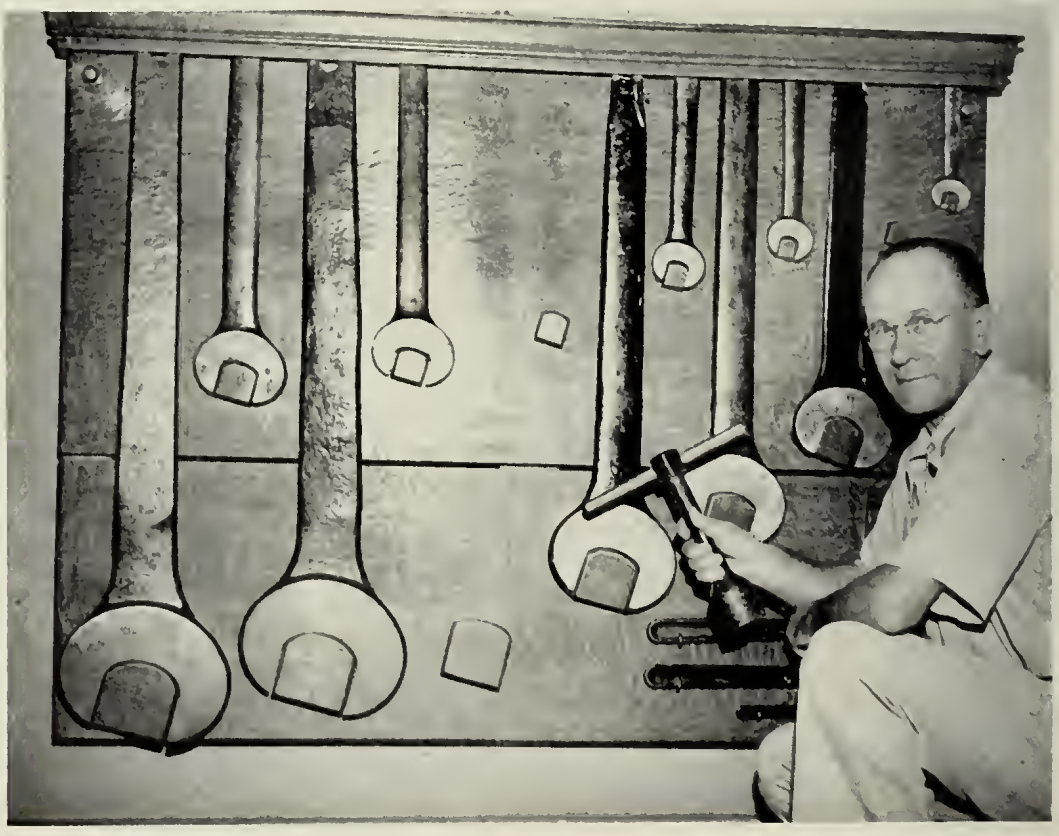
Work on the diversion tunnel and power tunnel stub was started during the year. The tunnel is 1400 feet long, 16 feet in diameter, and is to be lined with reinforced concrete. By July 1, 1953, this contract was about 20% complete and it is expected that the tunnel will be complete and ready for the diversion of Cherry River by March 15, 1954. Upon completion of the need for diversion of the river, valves will be installed and the tunnel will be used as the permanent outlet works for the dam.

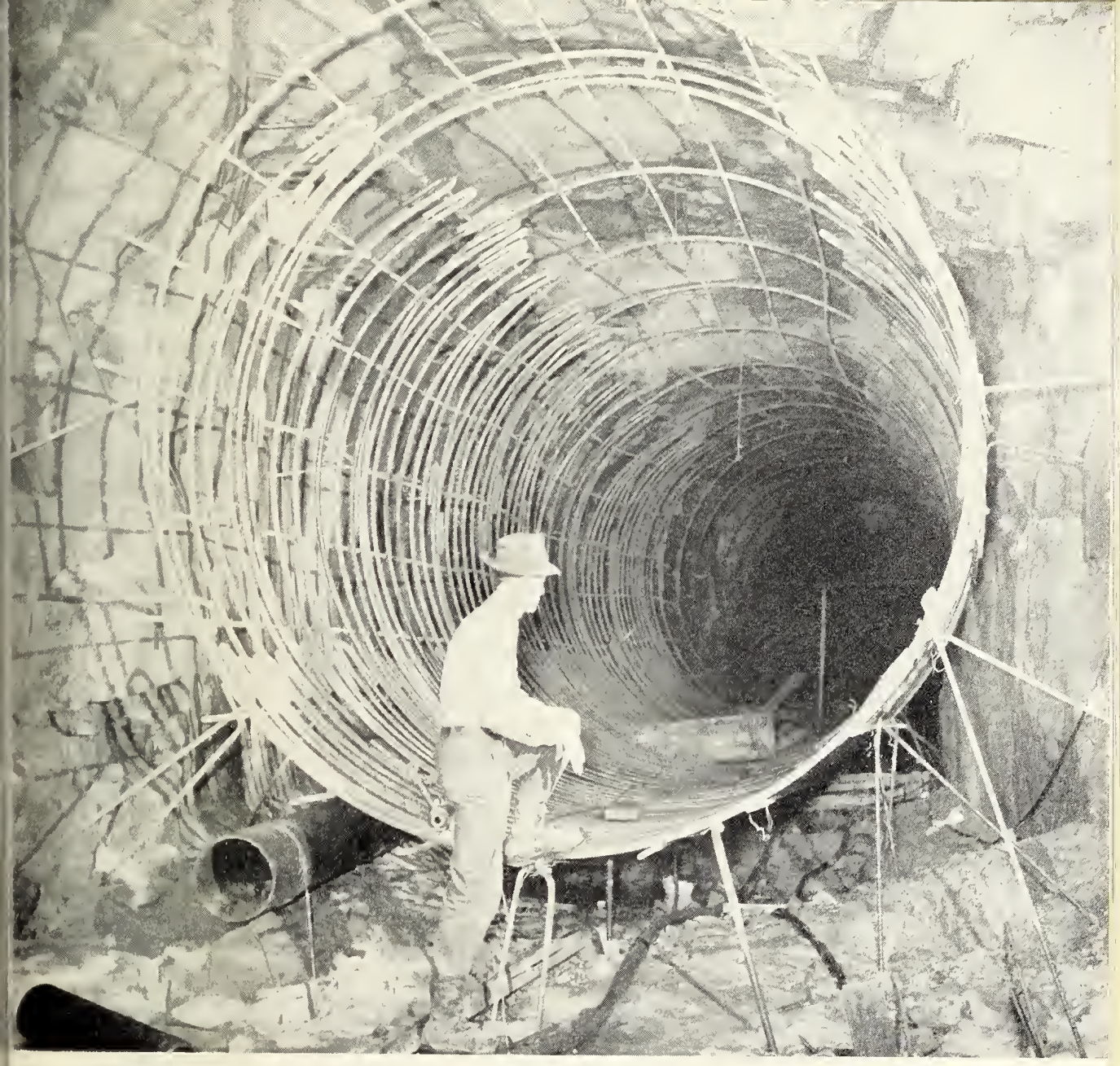
Under a contract between the Federal Government, the City, and the Modesto and Turlock Irrigation Districts, the Federal Government is to pay $12,000,000 for the flood control service to be provided by the City and the Irrigation Districts. Of this amount $9,000,000 has been allocated to defray a portion of the expense of Cherry Valley Dam, with the remainder to be provided by the City. To date the Federal Government has paid $6,903,140 to the City and an additional $200,000 has been appropriated and will be available for construction in 1953-54.

Hetch Hetchy Power

Gross revenue from the sale of electric energy generated at the City's Moc-

Definitely not for the home hobby shop are these hand-forged, open-end wrenches used for maintenance and repair work on the eight water wheels at Moccasin Power Station.





This shows the construction of a portion of the power tunnel stub which will form an important part of Cherry Valley Dam, to be completed in 1955. Reinforcing steel framework is being placed in preparation for the pouring of the concrete.

casin and Early Intake plants during the fiscal year 1952-53 was $4,618,000, an increase of 15% over the revenue of the previous year.

The increase was caused chiefly by increased energy consumption by the City's Municipal Departments and by the Modesto Irrigation District; application of increased rates for service to Kaiser Aluminum and Chemical Corporation and Permanente Cement Company; and connection to the City's lines of a new customer, the Riverbank Ordnance Plant at Riverbank, California.

The net revenue this year, after deductions for purchased power, wheeling charges and transmission line rentals, was $3,805,000, an increase of 7% over the year before.

HETCH HETCHY ENGINEERING

Municipal Railway

The preparation of engineering studies, plans and specifications continued for the improvement and rehabilitation of the Municipal Railway.

Included in this work was the development of plans for necessary changes in Municipal Railway lines as freeway and one-way street plans go forward.

The construction work this year was financed from three main sources:

a. The 1947 Municipal Railway Bond Fund.

b. The Municipal Railway Reconstruction and Replacement Fund.

c. State funds for Freeway changes.

Major Projects Completed

—The Outer Mission Substation. This new power plant gives 1000 horsepower of electric energy for the outer Mission and Ocean Avenue trolley coach lines. It is an outdoor, automatic unit using mercury arc rectifiers, and replaces the antiquated and relatively inefficient Geneva Avenue Substation.

—A new "ladder" track at the Geneva Carhouse. This is a group of switches and pieces of curved track to enable street-cars to move in and out of the storage lanes in the carhouse.

—Modernization of the Geary Offices, including a new fireproof vault for records, and a new "gilley" room for the operators.

—A new "wye" curve at Eleventh and Market Streets to permit turning around the new single-end P.C.C. cars at that point.

—Reconstruction of portions of the cable car tracks. This year, the second and third steps in the program were completed, the first having been completed last year. The tracks reconstructed to date include those on Columbus Avenue, Mason, Jackson, Washington, Steiner and Powell Streets. Next year the plan is to reconstruct the track loop on Powell, Washington and Jackson Streets; this will complete the presently planned program.

The Municipal Railway suffered a bad fire at the Bus Garage at 24th and Utah Streets, in March, 1952. The Railway management has decided to convert this facility from an operating base to a maintenance and repair center. Plans for rebuilding the garage have gone ahead on this basis, and the actual work will start during the next fiscal year.

San Francisco International Airport

Work started in October 1951 on the new terminal area, the first major project being the $6,775,000 terminal building. In this fiscal year, more units have been started which include the passenger concourses, the service building, the air mail and cargo building, as well as work on utility extensions. These projects now under way, together with those planned for the near future, indicate a total cost for the new terminal area of about $14,000,000.

New Landing Aids Installed

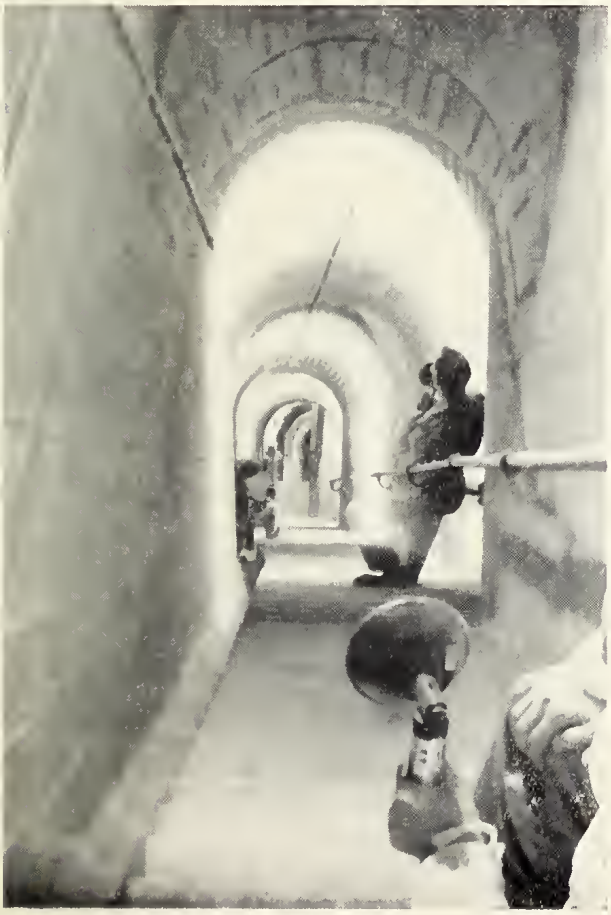
In addition to the construction of the new terminal itself, the airport is being improved by the installation of the best available landing aids. In this fiscal year, new approach lights and surveillance radar went into operation, and designs are being made for the installation of precision radar, in cooperation with the Civil Aeronautics Administration.

A new maintenance hangar for private flyers went into use which provides additional benefits for private flyers, who last year began using the new itinerant pilots' building.

In the new terminal area there will be many different airlines and other private companies doing business for the convenience of the public. These companies lease space from the City. Our engineering staff prepared drawings and made studies in connection with these leases.

Federal Funds Received

This year additional Federal funds were received in the amount of $702,628, bringing to $4,780,171 the total amount of assistance received by San Francisco under the Federal Airport Aid Act.



Taken by multiple flash, this unusual photograph shows one of the steep inspection galleries which penetrate into the interior of O'Shaughnessy Dam. Constant checks are made for possible small leaks and cracks.

Fiscal Year 1952-1953

What We Received:

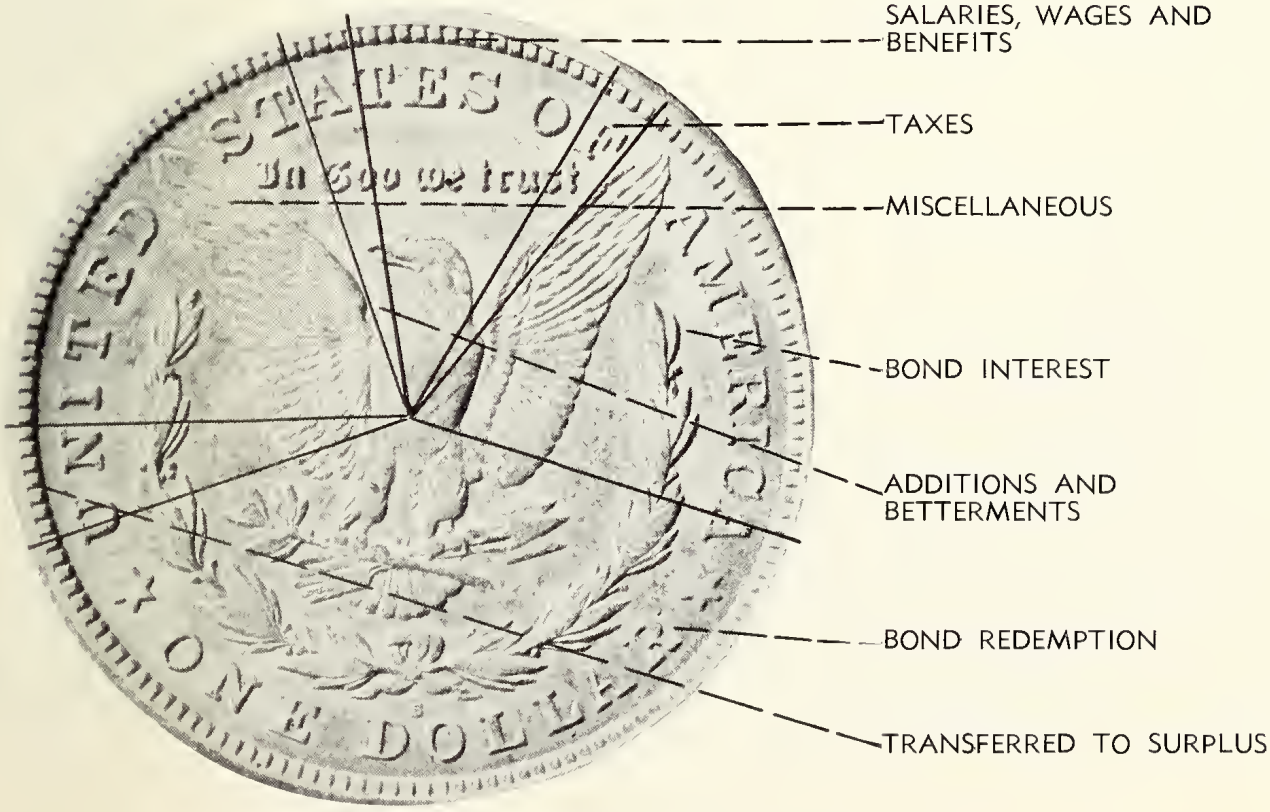
By Transfer from S. F. Water Dept. for Standby and Purchase	$3,545,675
Revenue from Sale of Power	4,617,981
Other Revenue	62,579
TOTAL RECEIPTS	$8,226,235

Where Money Went:

Salary and Wages Including Retirement Sickness and Industrial Compensation Benefits	$ 892,431
*Miscellaneous	1,996,941
Taxes	20,239
Bond Interest	1,852,292
Bond Redemption	3,065,069
Additions and Betterments	49,695
TOTAL EXPENDITURES	$7,876,667
Unappropriated Revenue Transferred to Surplus	349,568
	$8,226,235

*Contractual Services	$ 56,557
Material and Supplies	71,889
Water Rights and Damage Claims	20,346
Fee to U. S. Government	30,000
Purchase of Power for Resale, Service Charge and Rental of Transmission Line	1,814,356
Insurance	3,793
	$1,996,941

GROSS RECEIPTS



EXPENDITURES

The Purification Division Laboratory of the Water Department runs more than 15,000 chemical and bacteriological tests annually to insure compliance with U. S. Public Health Service standards in providing safe, pure water.

Water Department

Brief History

March 3, 1953, marked the twenty third anniversary of the municipally owned San Francisco Water Department. It was on that day in 1930 that the City took over the private Spring Valley Water Company, which had served San Francisco as its major water works since 1865.

The purchase of the private company by the City for $41,000,000 culminated many years of effort on the part of citizens to buy out the company with which many people were dissatisfied.

In the early Gold Rush Days, San Francisco had obtained its water from wells, small local streams, by barge from Sausalito and, when population continued to outstrip the supply, the Spring Valley Company branched out for new sources in San Mateo County. Later, this company developed sources in the East Bay. All of these sources, with the necessary reservoirs and transmission lines, became part of the San Francisco Water Department.

In 1934 the Department's water supply was substantially increased by the addition of Hetch Hetchy lands, which today provides over 60% of the total supply.

Since its beginning, the Water Department has been completely self-sustaining. In 22 years, while practically everything else has gone up in cost, the Department has reduced residential rates until they are now ten percent lower than they were under those of the Spring Valley Company.

The Water Department has also added $51,287,005 to the Fixed Capital in service in the twenty three years the City has operated the utility, making a total investment of $94,189,620 as of June 30, 1953. This is in addition to financing of the maintenance and operation of the entire system, and meeting bond interest and redemption payments as they become due; all of which has been done entirely from revenues without tax subsidies, hidden or otherwise.

Employees of the Department on June 30, 1953 numbered 436, including 89 temporary employments. In spite of the increase in number of consumers, total yearly consumption, miles of pipeline and increase in other facilities, the employment was reduced to that figure from 512 employed by the Spring Valley Water Company.

Highlights of the Year's Construction Activities
Sunset Supply Line

Contracts for two sections of the Sunset Supply Line were awarded and construction started during this fiscal year. These two sections, together with the two constructed in 1949, Baden to Colma and Colma to Sunset Reservoir, complete the 60-inch pipe line from Burlingame to Sunset Reservoir, leaving the section from Burlingame to Crystal Springs Reservoir and the San Andreas

Three rangers and four keepers are on duty round-the-clock to protect over 25,000 acres of valuable Water Department property in the peninsula-Crystal Springs area. Most of the land has also been set aside as a Game Preserve.

branch to be done. When completed, the Sunset Supply Line will make the fifth transmission line carrying water from the Peninsula Storage Reservoirs to the Distribution Reservoirs, increasing the existing pipe line capacity by approximately 50 million gallons per day.

On completion of the Sunset Supply Line and the Lake Merced Pumping Station, water will flow by gravity through the Sunset Line to Sunset Reservoir, or it may be raised to the higher elevation of Sutro Reservoir by the Lake Merced pumps. Water from Crystal Springs Reservoir will flow by gravity to Lake Merced Pumping Station where it can be pumped to either Sunset Reservoir or Sutro Reservoir for distribution in their respective districts or again pumped from Sutro Reservoir to the proposed 800 foot elevation Summit Reservoir by Summit Pump Station located on Clarendon Avenue.

Lake Merced Station

Progress on construction of Lake Merced Pumping Station was delayed by area wide strikes in the building trades and by unfavorable ground conditions.

Cross Connections at Newark

The long needed cross-connections between Bay Division Pipe Lines at Newark and Redwood City were completed this year. They permit shutting off flow in a section of either pipe line for repairs without interrupting the flow of Hetch Hetchy and Calaveras waters, providing a more flexible operation.

Alameda Creek Siphon Contract Awarded

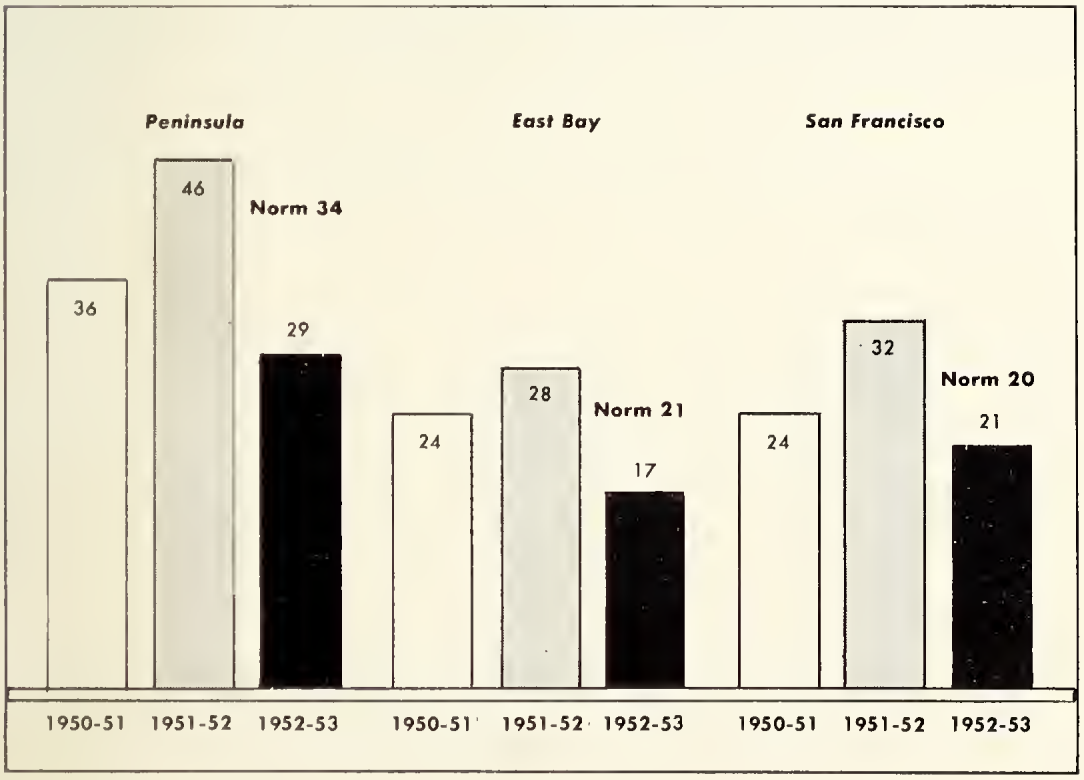
A contract for Alameda Creek Siphon No. 2 was awarded in February of 1953. Siphon No. 1 was constructed in 1933. This line is a part of the aqueduct transmitting Hetch Hetchy and Calaveras water to the Department's consumption area and peninsula storage reservoirs.

Consumer demand had exceeded the capacity of Siphon No. 1, and this second pipe line was needed very badly. Thus, the Department is providing the added capacity needed to meet the increased demand in the various pressure districts making the system more flexible, and fulfilling an obligation to provide an adequate supply of potable water at all times. There are, however, a number of other projects needed to insure a continuous supply of pure water to meet the increasing demand and emergencies.

Production and Transmission

Rainfall during this fiscal year for the first time in three years was below normal in the Department's local Watershed Areas, while in the City itself pre-

RAINFALL



cipitation was 0.61 of an inch above normal. This reflected in the loss in storage between the beginning and end of the year of one billion gallons in City and Peninsula Reservoirs, while Calaveras Reservoir storage decreased by four and one-half billion gallons. This decrease occurred even when the maximum quantity possible was drawn from Hetch Hetchy during the year, averaging 59 million gallons daily.

Suburban and Local Water Delivery

Deliveries to San Francisco consumption area averaged 88.5 million gallons daily. Additional suburban deliveries averaged 29.9 million gallons daily.

Deliveries from Hetch Hetchy were	21,632 million gallons
Draft from local production was	21,598 million gallons
Total	43,230 million gallons

Practically all water deliveries outside the City of San Francisco are made to vendors who take large quantities at the Department's transmission mains and distribute the water through their own distribution systems to individual consumers. The Department's water is used by practically all cities and towns in San Mateo County and by the City of Palo Alto.

Outside City Sales

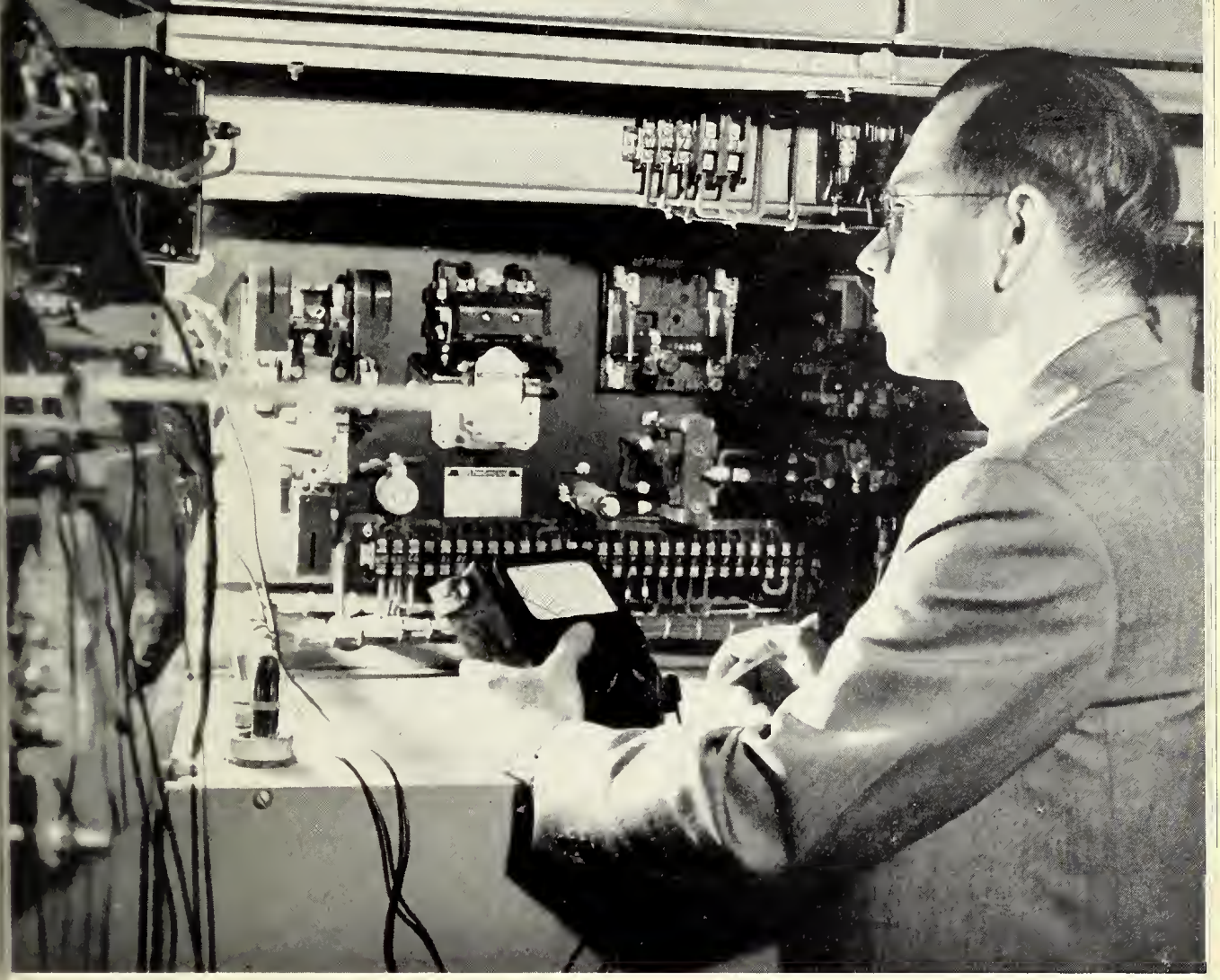
The City of Hayward, Alameda County, started using the Department's water in November 1949, to supplement their own supply. Distribution systems in these communities are owned by individual cities, public utilities companies, water districts or private individuals. Other relatively small deliveries are also made from the Department's transmission mains in the southerly area of Alameda County.

Consumption and Sales

Water consumption for the entire system during the year averaged 118.4 million gallons daily, an increase of 9.3 million gallons daily over the preceding year. Of this total, 88.5 million gallons daily were used in the San Francisco consumption area and the balance of 29.9 million gallons daily was used in the suburban area.

Peak Demand on System

The peak 24 hour demand on the system, occurring on June 24, 1953, was 166.8 million gallons, as compared to the previous all time peak of 154.0 million gallons on June 16, 1952.



Machinery installed in the new Merced Pumping Station is of the latest design, capable of controlling the automatic operation of the eight motors, generating over 5,000 HP, used to operate the pumps. About 33 million gallons of water a day can be lifted from Crystal Springs to the Sunset Reservoir, 17 million to Sunset Reservoir.

Low Demand on System

The low 24 hour demand on the System, occurring on December 25, 1952, was 83.7 million gallons as compared to a low of 77.6 million gallons on December 25, 1951.

June Consumption Up As Usual

The month of June, 1953, had the highest daily average demand of any month during the year, averaging 140.2 million gallons per day as compared to an average 130.8 million gallons per day in June, 1952.

Water Sales Up 4% Over 1951-1952

Water sales for the year, including municipal non-pay accounts, amounted to $12,504,883, an increase of $522,670 or 4.4 percent over the previous year.

A little-known activity of the Water Department is the sale of pure, fresh water to incoming and outgoing ships docking temporarily at San Francisco wharves. This year, $80,000 was received by the Department for about 215 million gallons. Water pipes running under the Embarcadero must be constantly checked.

Accounts within the City limits increased by $237,808, making a total net sales within the City of $9,703,043, or 78 percent of the Department's total sales. Suburban net sales increased $284,862, making a total suburban sales of $2,801,840, or 22 percent of the Department's net sales.

Due Resolution Helps New Customers

On April 20, 1953, the Public Utilities Commission adopted a resolution which made a radical change in the Department's rules for dealing with new customers for water supply. Until that date, all new applicants for supply were required to apply in writing, and unless they owned improved real estate or had been customers for at least one year, were required to post a cash guarantee deposit.

With the change in rules, the Department is now requiring signatures and deposits only from applicants for commercial supply who do not own improved property or have not been customers for at least one year. All other applications are now accepted without signature or deposit, and, for the most part, are taken over the telephone.

1,651 New Customers

A total of 1,651 new services for domestic use was ordered during the year. New services for automatic sprinkler use totaled 27. Construction and street work jobs supplied with water and kept under inspection by the Builders and Contractors Section, totaled 1,701.

Coating the bare spots after welding together 20-foot lengths of 36-inch steel pipe is a hot, tough job. All steel pipe is coated and lined with a preservative mixture before being covered with earth.

Additional Revenue

The land held by the Water Department, insofar as feasible, is leased for use by others with an income of $333,715.46 from 98 leases covering 35,588 acres out of the total of 63,336.8 acres owned by the Department for the fiscal year 1952-1953. Uses of the land by tenants include grazing, cropping, rock quarrying, two golf courses, lumber yard and picnic grounds. Unique in this land use by tenants is the raising of strawberries and 500 acres of roses.

City Distribution

Because San Francisco again experienced a rather cool year, there having been no hot weather for any great length of time, there were no "no water" complaints due to the inadequacy of the system.

The principal complaint from consumers is again one of "poor pressure" which should read "poor supply." A careful inspection of these complaints brings out the fact that generally the water service is being choked or the house piping is too small, or both. A total of 909 complaints was received for the year. Each complaint was carefully inspected, analyzed, and every complainant notified by mail of the results.

Additional Feeder Mains Needed

From past experience it is known that a hot spell of several days duration would create a serious situation throughout the City. This condition can only be overcome by the laying of additional feeder mains in the various distribution

districts, as well as the rearrangement of the existing feeder mains. Funds were made available in the coming budget for the laying of some of the mains.

Summit Reservoir Will Supply Developments

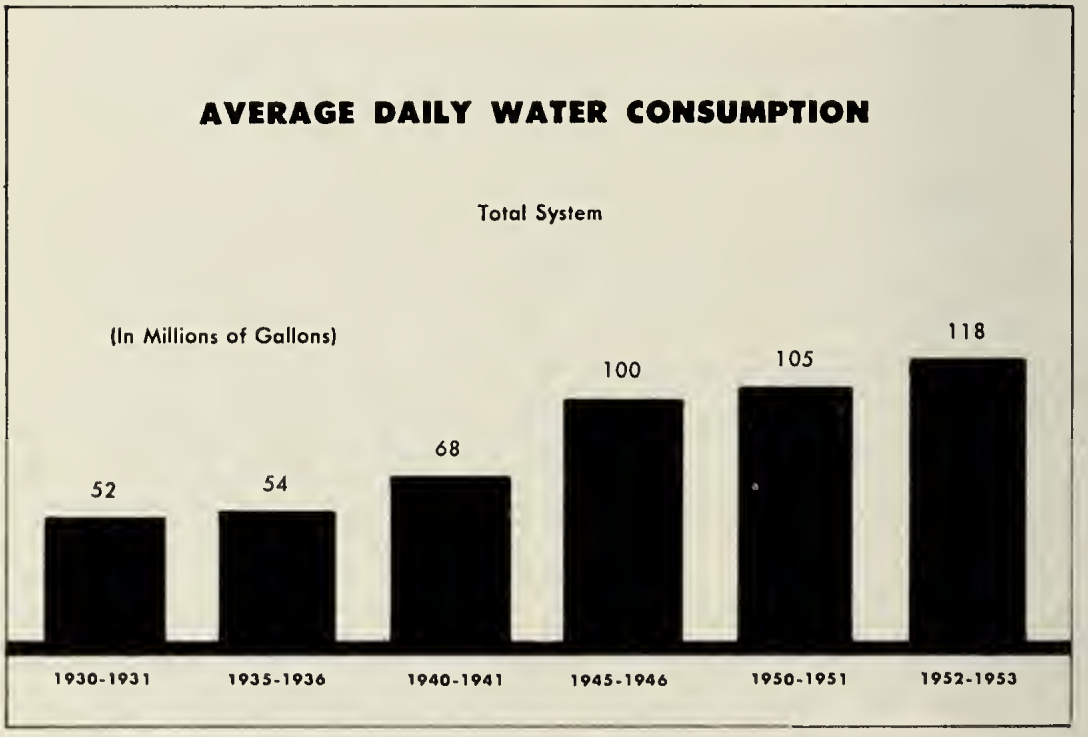
The development of the property north of Portola Drive and west of Twin Peaks Boulevard is still in the planning stage by the Standard Building Company. Most of this property is at such elevation as to require the water supply to come from a reservoir at an elevation of 800 feet.

Also, with the development of Diamond Heights, (the property south of Portola Drive and east of O'Shaughnessy Boulevard) much of the water supply will also have to come from this reservoir, together with an adequate pumping station and feeder mains.

This new reservoir will be known as Summit. The reservoir site is located just south of Palo Alto Avenue and west of Twin Peaks, it being at an elevation of 800 feet and to have a capacity of about 15 million gallons. Plans are almost completed, and the reservoir should be finished by the spring of 1954.

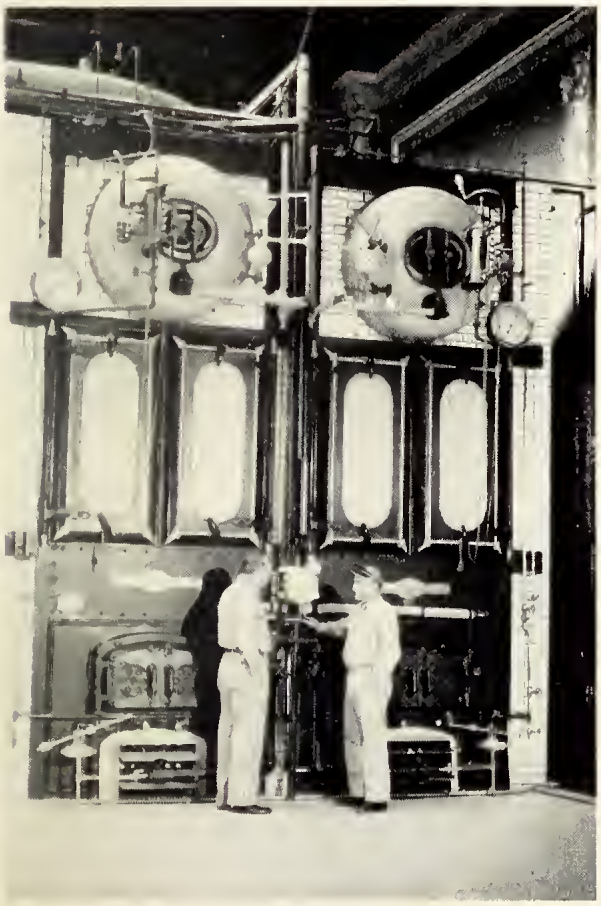
Construction

The work of the Engineering Division, during the past year, was primarily concerned with the preparation of plans, specifications, engineering studies, reports, estimates of cost, inspection of construction and, in some cases, the supervision of maintenance work.



A survey of proposed capital improvements to the water system was made, in connection with budgetary and City planning purposes, for the period beginning July 1, 1953, and ending June 30, 1960. Water Department requirements for this period were estimated at some $31,800,000 worth of improvements, having varying degrees of urgency. A number of the more essential projects programmed to start in the near future and for which funds are needed in whole or in part include the following projects:

Project	TOTAL ESTIMATED COST *July 1, 1954 to June 30, 1960*
Cathodic Electrolysis Erosion Protection	$ 120,000.00
Balboa Reservoir, One Basin	2,300,000.00
Summit District Feeder Mains	126,000.00
Relocation of Crystal Springs Pipe Lines, Brisbane	585,000.00
Corporation Yard	800,000.00
Replace portions of Crystal Springs 44-inch Pipe Line	4,400,000.00
Crystal Springs Aqueduct	1,480,000.00
San Andreas Pumps and Force Mains	350,000.00
Sunset Reservoir, South Basin	2,950,000.00



An old-timer in service is this Central Pumping Station steam boiler which provides power to two 900 HP two-stage steam turbine pumps used to lift 12 million gallons of water a day from Merced Manor Reservoir to higher elevations in the city.

FINANCIAL RESULTS OF OPERATION

Fiscal Year 1952-1953

What We Received:

Revenue from the Sale of Water	$11,804,318
Revenue from the Sale of Walnuts	67,280
Rents and Commissions	272,088
Miscellaneous Revenue	42,662
Prior Year's Surplus	2,101,446
TOTAL RECEIPTS	$14,287,794

Where Money Went:

Salaries, Wages, including Retirement, Sickness and Industrial Injury Compensation Benefits		$ 1,985,278
*Miscellaneous		4,341,122
Taxes		554,632
Bond Interest		993,144
Bond Redemption		1,966,931
New Construction		2,763,109
Reconstruction and Replacement		722,500
TOTAL EXPENDITURES		$13,326,716
Unappropriated Revenue Transferred to Surplus		961,078
		$14,287,794
*Material and Supplies	$ 227,217	
Contractual Services	523,554	
Standby Charge and Purchase of Water	3,545,675	
Other Expenses	44,676	
	$4,341,122	

EXPENDITURES

GROSS RECEIPTS

1952

Bureau of Light, Heat and Power

Function

The functions of the Bureau of Light, Heat and Power include, in addition to the design, construction and operation of the street lighting system, the purchase of utility services for all departments of the City. The Bureau therefore controls the yearly disbursement of approximately three million dollars of city funds.

The Bureau consists of engineers, draftsmen, accountants, clerks and stenographers, a total of 19 employees at the end of this fiscal year.

Street Lighting Operation

During the year, 337 additional lights were installed in the various districts throughout the City.

With nine major street lighting contracts entered into during the fiscal year, and the development of new streets and housing projects, the number of new city-owned lights is greater in the 1952-53 fiscal year than in the 1951-52 period.

At the close of the year, 27,687 lights were in service, 2,006 being jointly owned with the Pacific Gas and Electric Company, 18,700 wholly owned by that company, and 6,981 wholly owned by the City. City-owned lights have increased in number from 934 in 1932 to 6,981 in 1952-53, an increase of 6,047.

With a surplus of over $43,900 in the construction fund, and with six new projects in the 1953-54 budget totaling $176,800, for new lights, plus new private tract development, it will be possible to increase the number of city-owned lights and also eliminate fixed charges on replaced company-owned lights.

An expenditure of $948,449.43 for street lighting operations was made during the year. This total includes operation and maintenance cost for all lighting equipment in streets, parks, viaducts, tunnels and underpasses. The increase over last year's expenditures of $882,950.55 was due to new maintenance rates allowed the Pacific Gas and Electric Company by the State Public Utilities Commission. Also included were new streets and subdivisions, which added 337 new lights to operation and maintenance costs; increased cost of damages to city-owned street lighting equipment; and cost of stock and office equipment.

The number of requests received by the Bureau for improved street lighting decreased from 121 in 1951-52 to 105 at the end of June, 1953. This decrease is due to the small increase in the development of unimproved streets and tracts in various sections of the City.

Requests for the installation of shades on the house-side of street lights were discouraged, because this tends to reduce street illumination by eliminating light reflected from buildings upon the sidewalk and street area.

With the cooperation of the Police Department, interested citizens, the Pacific Gas and Electric Company, and also field inspection by this Bureau, the

Broadway Tunnel

Over 500 fully-enclosed, plastic-shielded fluorescent fixtures were installed in the Broadway Tunnel, running through Russian Hill, to provide scientifically planned, natural lighting. Candlepower intensity is increased during the day, decreased at night.

The powerful floodlights that turn night into day at Kezar Stadium are part of the engineering and inspection services offered to other city departments by the Bureau.

number of lights reported out of service totaled 9,371, representing a saving of $897.88 in outage credits. The number of outages decreased from 25,706 in 1951-52 to 9,371 at the end of June, 1953. This decrease was due to changing standard lamps of 1,500 burning hours to group replacement lamps with 3,000 burning hours, and the creation of 12 new street lighting districts with each lamp changer responsible for his area. The above decrease was anticipated in June, 1952.

Engineering and Construction

The major streets on which street lighting jobs were completed this fiscal year are as follows:

Mission St., Silver Ave. to Geneva Ave.
Monterey Blvd., Ridgewood Ave. to Santa Clara Ave.
Golden Gate Heights District—Part I.
Sacramento St., Van Ness Ave. to Arguello Blvd.
Lakeshore Country Club Acres—Part I.
Sloat Blvd. Channelization, Junipero Serra Blvd. to Gt. Highway.
Kezar Drive, Lincoln Way to Stanyan St. & Park Panhandle.
Phelan Ave., Ocean Ave. to Flood Ave.
Stanley Drive, Junipero Serra Blvd., to Alemany Blvd.

During the fiscal year, the important function of rendering engineering and inspection services to other city departments requesting technical assistance, was continued by this Bureau. Representative examples include preparation of the electrical specifications and drawings for the Water Department's Lake Merced pumping plant, survey and planning for display lighting in the deYoung

Museum, and for a new electric distribution system for Camp Mather. Studies of existing installations are conducted and change suggestions offered whenever present facilities are proved to be inadequate or in need of modification.

Considerable reliance is placed by the Recreation and Park Department on this Bureau's engineering services to rehabilitate or modernize outdoor installations.

Gas and Electric Supply

During the fiscal year, 10,353,876 C/cubic feet of natural gas, 1,776,000 pounds of steam, and 157,471,473 kilowatt hours of electricity were used for municipal purposes, exclusive of electric energy used for street lighting. The City paid $406,056.95 to the Pacific Gas and Electric Company for gas and steam, and the various city departments paid $1,730,275.34 to Hetch Hetchy for electricity.

The overall use of electricity (kilowatt hours) for municipal purposes shows an increase of 14.6% as compared to 1951-52. This net increase is brought about by substantial increases in energy used by the Recreation and Park Department, Department of Public Works, Department of Electricity, San Francisco Airport, Municipal Railway, Water Department and San Francisco Unified School District.

The use of natural gas increased 5% over last fiscal year, due to substantial increases by the Department of Public Works, San Francisco Water Department and the San Francisco Unified School District.

Rate Advisory Studies

The interpretation and application of the various gas and electric rate schedules is an important Bureau function. It also provides services embracing supervision of metering, meter installations, meter reading and billing of the city-owned electrical distribution system at the Airport. A constant physical survey of plant operation and costs for the various city departments is maintained to ensure that proper rate schedules are being applied. This often discloses changes to plant or operation that will result in a lower cost for gas or electricity. If it is found that a change in rates will result in lower costs, this Bureau so recommends and will render the necessary engineering assistance.

All new installations of city-owned street lighting circuits are thoroughly tested and checked with transformers and heavy-duty electrical equipment which measures 0-12,000 crest voltage.

Fiscal Year 1952-1953

What We Received:

By Transfer from Other Current Funds for Electricity and Gas—Interdepartment	$2,134,534
Special Road Improvement Fund	26,000
Ad Valorem Taxes	1,106,254
Prior Year's Surplus	114,961
TOTAL RECEIPTS	$3,381,749

Where Money Went:

Salaries and Wages, including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 98,352
Miscellaneous	17,217
Electricity and Gas for Street and Public Building Lighting and other City Departments	3,079,608
New Construction	186,572
TOTAL EXPENDITURES	$3,381,749

Contractual Services	$ 1,302
Maintenance and Repair of Structures	13,706
Material and Supplies	1,972
Insurance	237
	17,217
Electricity and Gas, Interdepartmental	2,113,344
Public Building Lighting	38,683
Lighting of Public Streets	927,581
	$3,079,608

GROSS RECEIPTS

EXPENDITURES

Much of the excitement and drama of a large, metropolitan airport takes place in the tall, circular structure high atop the administration building and known as the Control Tower. Nerve center of Airport operations, the men in the tower are busy round-the-clock, charged with the control of all traffic on the field area and in the skies. Aircraft ranging from light, single-engine planes to huge, six-engine commercial and military giants land or depart at an average of one every three minutes day and night!

San Francisco International Airport

The completion of the new 15 million-dollar terminal building and related facilities now under construction is anticipated early during the forthcoming fiscal year. When this phase of the Airport development is completed, and domestic and international air carrier operations accommodated in the new terminal building, the citizens of San Francisco will begin to realize the fruition of their investment. The San Francisco International Airport will then be one of the best balanced civil airports in the world, possesssive of the finest facilities for the accommodation of passengers and the operation of aircraft. Truly, this Airport, in which the citizens of San Francisco have authorized the expenditure of some 30 million dollars through general obligation bonds in recent years, is now and will continue to be the focal point for world air routes. The air passenger traffic of the San Francisco International Airport ranks fifth of all airports in the United States.

Original Site Well Chosen

Since 1926, when the establishment of an airport to serve San Francisco was first approved, this facility has grown in stature to where it is now considered one of the finest airports in the world. That the site for the airport was well chosen can be confirmed by the fact that it has been possible to expand the facilities in an orderly fashion to meet the challenging requirements which have resulted from the phenomenal growth of air transportation. Many other major cities during this same period have had to construct new airports because expansion of their original site was not feasible.

Thirteen Scheduled Lines Represented

On June 30, 1953, thirteen scheduled air carriers were conducting regularly scheduled flights from the San Francisco Airport. Domestic air carrier passenger service was rendered during the fiscal year by American Airlines, California Central Airlines. Pacific Southwest Airlines, Southwest Airways, Trans

The new Terminal Building, now under construction, represents a total investment of approximately $14,000,000. It is hoped that the terminal and related facilities will be in operation by August of 1954. Since a great deal of the Airport is on filled land, the Terminal Building is supported on 1,000 ninety-foot piles and contains 250,000 square feet of floor space.

World Airlines, United Air Lines and Western Air Lines. In addition thereto, transpacific passenger service was available through B. C. P. A., Canadian Pacific Air Lines, Pan American World Airways, Philippine Air Lines and United Air Lines. Air freight service was regularly available through American Airlines, The Flying Tiger Line, Slick Airways, and United Air Lines.

SAN FRANCISCO AIRPORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATIONS

REVENUE PASSENGER ACTIVITIES

	Revenue Passengers In and Out 1951-1952	1952-1953	% Increase Decrease	Revenue Passengers On and Off 1951-1952	1952-1953	% Increase Decrease
July	168,440	211,122	25.3	130,869	170,172	30.0
August	184,946	223,326	20.8	144,279	172,010	19.2
September	173,834	214,730	23.5	134,159	168,905	25.9
October	171,974	205,346	19.4	133,496	165,141	23.7
November	159,198	183,152	15.0	123,273	144,045	16.9
December	162,419	187,619	15.5	119,467	142,884	19.6
January	152,859	181,364	18.6	117,292	138,908	18.4
February	151,413	167,148	10.4	116,226	132,030	13.6
March	170,162	198,419	16.6	128,504	151,945	18.2
April	186,535	196,809	5.5	143,681	155,081	7.9
May	189,001	200,451	6.1	146,843	160,208	9.1
June	192,409	217,851	13.2	158.389	175,529	10.8
	2,063,190	2,387,337	15.7	1,596,478	1,876,858	17.6

SAN FRANCISCO AIRPORT

DOMESTIC AND INTERNATIONAL AIR CARRIER OPERATIONS

AIRMAIL AND AIR EXPRESS-FREIGHT

	Pounds of Air Mail 1951-1952	1952-1953	% Increase Decrease	Pounds of Air Express-Freight 1951-1952	1952-1953	% Increase Decrease
July	2,123,395	2,202,806	3.7	3,119,068	3,815,992	22.3
August	2,311,916	2,207,639	–4.5	3,871,245	4,049,107	4.6
September	2,399,315	2,174,975	–9.3	3,614,694	4,003,253	10.7
October	2,795,163	2,417,849	–13.5	3,754,049	4,336,299	15.5
November	3,150,538	2,438,295	–22.6	3,523,664	3,599,043	2.1
December	4,094,473	3,408,893	–16.7	3,952,126	3,825,811	–3.3
January	2,759,612	2,368,462	–14.2	3,540,231	3,436,802	3.0
February	2,705,040	2,154,643	–20.3	3,321,493	3,319,738	–0.1
March	2,583,171	2,483,192	–3.9	3,692,612	3,630,404	–1.7
April	2,364,770	2,418,764	2.3	3,282,660	3,548,276	8.1
May	2,347,043	2,440,742	3.9	3,417,245	3,530,022	3.3
June	2,202,720	2,287,916	3.9	3,425,512	3,736,284	9.1
	31,837,156	29,004,176	–8.9	42,514,599	44,830,031	5.4

SAN FRANCISCO AIRPORT

AIRCRAFT MOVEMENTS

	Air Carrier 1951-52	Air Carrier 1952-53	% Increase Decrease	Itinerant 1951-52	Itinerant 1952-53	% Increase Decrease	Local 1951-52	Local 1952-53	% Increase Decrease	Total 1951-52	Total 1952-53	% Increase Decrease
July	9,238	8,978	–2.8	1,925	2,072	7.6	2,389	1,824	–30.9	13,552	12,874	–5.3
August	8,956	9,363	4.5	1,869	2,404	28.6	2,332	2,078	–12.2	13,157	13,845	5.2
September	9,723	9,822	1.0	1,790	2,350	31.3	2,373	2,154	–10.2	13,886	14,326	3.2
October	9,703	9,920	2.2	1,570	2,333	48.6	2,041	2,147	5.2	13,314	14,400	8.2
November	8,005	9,514	18.9	1,163	2,213	90.3	1,652	2,130	28.9	10,820	13,857	28.1
December	8,647	9,821	13.6	971	1,668	71.8	1,630	2,020	23.9	11,248	13,509	20.1
January	8,726	9,625	10.3	1,119	1,799	60.8	2,264	2,510	10.9	12,109	13,934	15.1
February	7,319	8,215	12.2	1,288	1,670	29.7	2,345	1,811	–29.5	10,952	11,696	6.8
March	8,390	9,588	14.3	1,565	1,933	23.5	2,612	3,115	19.3	12,567	14,636	16.5
April	8,776	9,324	6.2	1,717	2,195	27.8	2,127	3,201	50.5	12,620	14,720	16.6
May	8,611	9,678	12.4	1,717	2,341	36.3	2,511	2,668	6.3	12,839	14,687	14.4
June	8,753	9,512	8.7	2,019	2,842	40.8	2,318	2,656	14.6	13,090	15,010	14.7
	104,847	113,360	8.1	18,713	25,820	37.9	26,594	28,314	6.5	150,154	167,494	11.5

Passenger Traffic, Air Freight Increase

During the fiscal year ending June 30, 1953, these combined scheduled air carriers accommodated 2,387,337 revenue passengers in and out of the San Francisco Airport. This represented an increase in revenue passenger traffic of 15.7% over the previous fiscal year. During this same period, these air carriers' combined operations resulted in a total of 29,004,176 pounds of air mail in and out of the Airport, and some 44,830,000 pounds of air express and air freight.

The growth of the aviation industry and particularly the revenue passenger service can best be realized by reviewing the growth over a period of years. The record discloses that during the fiscal year ending June 30, 1953 the volume of passengers accommodated at the San Francisco Airport totaled 2,387,337, which was more than the total number of 1,734,762 passengers carried by all of the air carriers in the United States during 1939. The eminent position of the San Francisco International Airport among the major air terminals is best illustrated by noting how the airport fits into the international pattern of air transportation and how we are able to take advantage of the natural and man-made advantages that the Airport provides.

Natural Advantages

1. *Location*

   a. Nearer to Honolulu than any other major air terminal in the United States.

   b. Only 20 minutes from downtown San Francisco via the new Bayshore Freeway.

   c. Readily accessible to Marin, East Bay and Peninsula points via highways.

   d. The aircraft approach to prevailing wind (instrument landing runway) is over water, with the nearest structure or natural terrain feature more than six miles distant.

   e. Aircraft in landing or take-off maneuvers (called flight pattern) are routed in either a left or right hand direction, depending on the runway in use, so as to generally keep air traffic over the Bay and away from industrial or residential areas.

   f. The future development is not constricted. It is feasible to expand the Airport's operational area toward the Bay. Many other major airports are surrounded by well developed private property, and expansion inevitably brings them closer to industrial or residential areas from which arise problems of noise or safety.

Security officers of the Airport are deputized by the San Mateo Sheriff and are responsible for the protection of life and property, direction and control of traffic, enforcement of Airport rules and regulations and, as shown above, the consoling of lost children.

g. The location on the west side of San Francisco Bay affords the Airport a seaplane landing channel 4 miles long, and a seaplane harbor of ½ mile diameter.

h. Because of harbor facilities, it is practical for petroleum products to be delivered from the refineries by barge. The tank farm at the Airport has a storage capacity of 2,260,000 gallons, and a normal delivery of 36,000,000 gallons a year.

i. The Airport is so situated that air traffic confliction with traffic of other airports is at a minimum.

j. Suitable areas are available for lease to air carriers for the establishment of necessary aircraft maintenance, repair, and operational headquarters.

2. *Weather*

a. Prevailing wind permits overwater approaches.

b. With present navigational aids, 98.5% of scheduled flights are completed.

c. During instrument weather conditions, meteorological conditions usually permit use of the prevailing wind runway which is also the one equipped with center line approach lights and the instrument let-down system.

d. Meteorological conditions are favorable to the extent that the aircraft delays or cancellations are maintained at a minimum, as compared with other major air terminals.

For safe, efficient operation of aircraft it is essential that runways, taxiways and loading sections be carefully and accurately marked by Airport maintenance personnel. Total pavement area on the field is equivalent of 70 miles of four-lane highway!

Man-Made Facilities

1. *Runways*
   a. Instrument east-west runway—8870 feet, parallel runway—6500 feet long, north-south runways are 7750 feet and 7000 feet respectively, (all are 200 feet wide) ; complete taxiways, run-up aprons and parking aprons. Total pavement at Airport is equivalent to 68 miles of four-lane highway.
   b. There is a comprehensive master plan for development that provides assurance that the San Francisco International Airport will be capable of expansion and development to meet the future requirements of the air transportation industry.
   c. The present runways are adequate to accommodate a 100% increase in the volume of air traffic.

2. *Lights*
   High intensity controllable brightness lights are installed on all runways and controlled from airport traffic control tower.
   Center line approach light system 3000 feet long (high intensity, controllable brightness).

3. *Radar*
   Civil Aeronautics Administration operates surveillance radar, 30 miles radius. Precision approach radar being installed.

4. *Instrument Landing System* (ILS)
   Instrument let-down system, continuously available, is operated by Civil Aeronautics Administration.
5. *Private Plane Storage*
   Adjacent to hangar and pilots' ready room.
6. *New Terminal Building Presently Under Construction and Scheduled for Completion in the Summer of 1954*
   The new terminal for the San Francisco International Airport will provide for a two-level passenger flow operation, with outbound passengers arriving by motor vehicles at the first floor level (one story above ground), and the inbound passengers departing from the ground floor level. The passenger's course of travel from his automobile to the aircraft, and from the aircraft to his automobile, is made as short, as direct and as nearly in a straight line as possible. The information and ticket counters are directly in front of him as he enters the building. After procuring his ticket and parting with his luggage, he enters the corridor leading to the concourses and then goes to his airplane. The waiting room, coffee shop and other passenger accommodations, all overlooking the apron, are along his line of travel, but are so arranged as not to interfere with future traffic flow. The outgoing passenger's baggage is taken at the ticket counter and sent to the ground floor level by automatic lifts and chutes.

Important Installations

1. U. S. Coast Guard Air Station at San Francisco International Airport is one of three such installations on the Pacific Coast. This station is responsible for air-sea rescue in the area between San Francisco and a point half way to Seattle, Los Angeles and the Hawaiian Islands. The Coast Guard utilize land planes, seaplanes, helicopters and watercraft in their operations from this airport.
2. The San Francisco Overseas-Foreign Aeronautical Communications Station at the San Francisco International Airport is a Pacific Coast focal point for the dissemination of international aeronautical, meteorological and administrative traffic to and from the Pacific area. In addition to this function, the San Francisco station is designated as an International Notice to Airmen Office, the function of which is the dissemination of notices to airmen affecting international civil aviation.
   The San Francisco Overseas-Foreign Aeronautical Communications Station is comprised of four component parts: The transmitter station is located in Belmont adjacent to Bayshore Highway; the receiver station is located near Pescadero; the ultra high frequency repeater/communication station is located on Skyline Highway near Pise Mountain; and the control station is located on the second floor of the Airport administration building.
3. The Weather Bureau staff of 56 employees mans an Observation Unit; Briefing Unit; Flight Advisory Weather Service; International Aviation Forecast Service which is one of two such units in the U. S.; District Forecast Unit

which issues information for marine use, and for northern and central California and Nevada; Fire Weather Unit which issues fire warnings to national, state and county forests in central California; and a Research Unit which seeks methods of improving forecasts. All of the above are serviced by a Map Plotting Unit and Administrative Section.

4. Other governmental facilities at the Airport are the Civil Aeronautics Administration Traffic Control Tower, Air Carrier Inspection office, U. S. Customs office, and an air mail field postal facility.
5. United Air Lines, one of the five major domestic trunk air carriers, has established its major maintenance base at the San Francisco International Airport on property leased from the City. This base employs in excess of 3,500 persons and is important in the economy of the Bay Area.
6. Pan American World Airways has its Pacific-Alaska Division executive, maintenance and operational headquarters at the Airport. The PAA base employs 3,000 persons and is also on property and in air structures leased from the City.
7. Southwest Airways centers all its activities at San Francisco International Airport. Their operations, maintenance and executive activities result in the employment of 230 persons locally.

More than 50 executive and private aircraft are based on the San Francisco International Airport and serviced and refueled by Airport personnel who provide 24 hour a day coverage. In the near future a modern maintenance hangar will be placed into operation to provide complete facilities for aircraft repair.

Fiscal Year 1952-1953

What We Received:

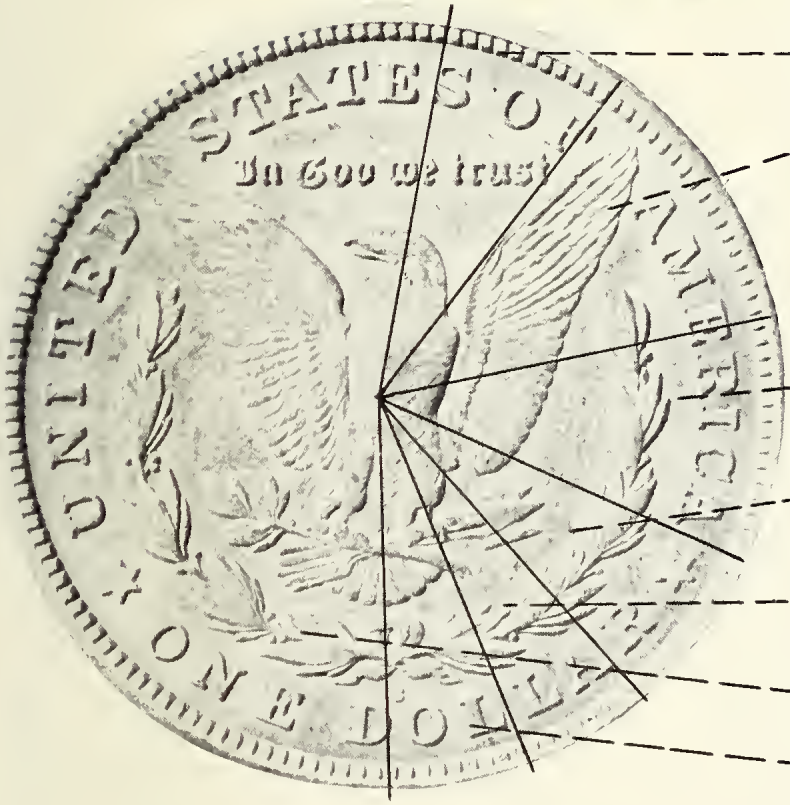
Air Carrier Flight Operations	$ 351,572
Rentals	288,746
Commission on Permits Outside Passenger Terminal Building	214,329
Commission on Agencies	108,131
Other Income	219,073
TOTAL REVENUE	$1,181,851
Prior Year's Surplus	230,000
Ad Valorem Taxes	1,604,442
TOTAL RECEIPTS	$3,016,293

Where Money Went:

Salaries, Wages, including Retirement, Sickness and Industrial Injury Compensation Benefits	$ 478,083
*Miscellaneous	289,081
Taxes	9,322
Additions and Betterments	8,723
Reconstruction and Replacement	5,500
Bond Interest	249,738
Bond Redemption	1,779,000
TOTAL EXPENDITURES	$2,819,447
Unappropriated Revenues Transferred to Surplus	196,846
	$3,016,293

*Contractual Services	$ 71,407
Heat, Light and Power	172,936
Material and Supplies	27,569
Insurance	16,079
Other	1,090
	$289,081

GROSS RECEIPTS



EXPENDITURES

Inaugurated in 1947, Central Control's Radio Station KMA 672 transmits over 300 messages a day, to 31 mobile units. In this scene, taken on a busy Monday "Shopping Night" an emergency schedule change is given directly to the Field Inspector responsible for the particular lines affected.

Municipal Railway of San Francisco

In Brief

The fiscal year ended June 30, 1953, marked the completion of forty and one-half years of continuous operation of the Municipal Railway, the last eight and three-quarter years being consolidated operation with the acquired properties purchased from the Market Street Railway Company on September 29, 1944. This period also includes over seventeen months of operation of the acquired California Street Cable Railroad Company since January 13, 1952.

At the close of the fiscal year, sixty-eight months after the electorate on November 4, 1947, had approved the $20,000,000 Rehabilitation Bonds, the $22,850,000 Street Improvement Bonds, the $2,000,000 Market Street Railway Refinancing Bonds, and the $5,000,000 Off-street Parking Bonds, the Municipal Railway transit system had undergone an almost complete physical transformation from what can now be termed the "Old Municipal Railway" as it then existed in November, 1947.

As of June 30, 1953, after the sweeping transit changes made under the various conversions, and with funds provided from the $20,000,000 bond issue and supplemented by the amount of $723,000 received from the sale of surplus land and buildings, a "New Municipal Railway" emerged presenting a vastly changed and improved type of transit system, and acknowledged to be one of the most modern surface transit systems in the nation.

The progress made thus far in the conversion from the more expensive rail operation to less costly rubber-tired operation has resulted in greatly minimizing the losses experienced from what they would otherwise have been.

No sacrifice in service has been made through the conversions as is evidenced by the fact that as compared with the fiscal year 1945-1946, seven years previous, when the railway operated 29,454,947 miles, the operated mileage in 1952-1953 totaled 30,553,894 miles, an increase of 1,098,947 miles. This is an increase of 3.7 per cent in mileage service to accommodate 104,026,135, or 31.9 per cent less total passengers, or 83,679,571, or 34.2 per cent less revenue passengers compared with the year 1945-1946.

Public Utilities Commission Responsibility

The San Francisco Public Utilities Commission, as the civic body charged with the responsibilities for the maintenance, operation, and rehabilitation of the Municipal Railway, together with the operating management of the railway, have sought to provide the more than 700,000 daily riders of the railway with adequate modern transit service at the lowest possible charge for the service.

With the $20,000,000 bond issue funds voted in November, 1947, and the $723,000 received from surplus property sales, the commission has sought, to the very best advantage of the funds at hand and in the shortest possible time, to convert old antiquated rail lines to modern, rubber-tired operation and to provide the necessary yard, housing, and service facilities.

In line with the nation-wide experience of practically all transit systems, the

Costs Hiked—Patronage Down

Municipal Railway has been confronted with a progressive decline in riders since June, 1945.

The principal cause of this loss of patronage has been the increased use of private automobiles, which tends to increase the congestion of downtown areas and generally makes for poor transit movement and obstruction of business.

In this period, payroll costs have increased about 80 per cent, and other costs have likewise risen.

It is interesting to note however, that for a period of about thirty-two years from December 28, 1912, to September 29, 1944, the Municipal Railway retained the basic 5 cent fare with a free transfer privilege. The present 15 cent fare is still lower than on many other comparable transit systems throughout the United States.

Results of Fare Increase

As a result of the increased revenue of approximately 33 per cent derived from this fare increase, the results of operations for June, 1952, showed a profit of $159,157.13.

This was the first month in the previous sixty-eight months that the railway had shown a profit.

For the twelve months ended June 30, 1953, results of operations showed a profit of $493,981.31, due to the increased revenue received.

In the past fiscal year ended June 30, 1953, gross passenger revenue totaled $23,328,178.63 as compared with $18,083,096.94 in the previous fiscal year, an increase of $5,245,081.69, or 29 per cent.

Passengers Carried

Fare passengers carried in 1952-1953 totaled 160,771,196 as compared with 178,056,796 in 1951-1952, a decrease of 17,285,600, or 9.7 per cent.

While a great decrease in riders has taken place, from the riders carried seven years ago, the service rendered in the past year is 1,098,947 miles, or 3.7 per cent, greater than that rendered in 1945-1946.

Therefore, the railway is now providing annually 3.7 per cent more mileage service and operating with far more modern equipment than seven years ago to accommodate 83,679,571, or 34.2 per cent, less revenue passengers, and 104,026,135, or 31.9 per cent, less total passengers.

Financial Results of Operation

The financial results of operations for the fiscal year ended June 30, 1953, after provision for accidents, depreciation, bond interest, retirement, and removal charges, showed a net profit in the amount of $493,981.31 as compared with a loss of $2,619,216.05 in the previous year.

This represents an increase in the net profit from operations over 1951-1952 in the amount of $3,113,197.36.

This betterment in the results of operations is entirely due to the increased passenger revenue received from the increase in the fare from 10 cents cash to 15 cents cash, which became effective on June 1, 1952. This increase in passenger revenue over 1951-1952 totals $5,245,081.69.

Clearing house for the day to day operation of the Railway is the Tuesday morning weekly conference of all department heads. Mutual problems are discussed and analyzed by the staff and individual reports are made, high-lighting activities both present and future.

This increased revenue was sufficient to provide for the cost of increased service operated over 1951-1952, amounting to 1,243,292 miles, or 4.24 per cent, as well as the increased cost of wage increases, including the cost of the "8 in 10" schedules, and higher material, supplies, and service costs.

Passenger Equipment—Then and Now

To illustrate the vast changes since November, 1947, mention is made of the transit facilities and type of operation then and as of the present time—June 30, 1953.

A comparison of the railway rolling stock five and a half years ago in November, 1947, with the present date, June 30, 1953, is as follows:

	Electric Street Cars	*Cable Cars*	*Motor Coaches*	*Trolley Coaches*	*Total Vehicles*
Increase or decrease	*414*	35	195	364	180
June 30, 1953	185	73	467	398	1,123
Nov. 30, 1947	599	38	272	34	943

The major number of the 943 passenger vehicles owned in November, 1947, were of an old, outmoded or obsolete type, and many were in poor operating condition.

Proposed New Rehabilitation Program
New Bond Issues of $3,871,000 and $2,749,000

In June of 1952, Colonel Marmion Mills, the Railway's transit expert, issued a report to the Public Utilities Commission recommending a new bond issue for a further rehabilitation program. After due consideration the Commission modified the original amount of the proposed bond issue to $6,620,000 and eliminated certain details involving a reduction in cable car operation.

After approval for submission by the Board of Supervisors, this proposal was submitted to the voters of San Francisco at an election held on November 4, 1952.

While the electorate voted 166,232 in favor of the bond issue and 111,693 voted against, the yes vote of 59% was short of the 66⅔% required, by 19,000 votes, and the bond issue did not carry.

Proposal Again Submitted

The Public Utilities Commission again requested the Board of Supervisors to submit this bond proposal at the election in November, 1953, mentioning the fact that the funds were needed for the purpose of providing better service and effecting certain economies in operation.

The bond proposals, as finally decided for submission, were voted upon in two separate plans; one for replacements totaling $3,871,000 and one for conversions totaling $2,749.000. This also failed of a two-thirds majority passage by a vote of: Proposal "A"—93,753 (yes); 99,126 (no). Proposal "B"—95,939 (yes); 94,672 (no).

National Emergency—Korean War

Because of the military action in Korea involving the United States military forces during the period to June 30, 1953, certain controls were placed on critical materials such as steel, copper, tin and aluminum, and other metals and metal products. To obtain such materials and metal products for reguluar needs, the railway was required to conform to the regulations of the National Production Authority by filing for material allotments quarterly and was required to confine purchases to the authorized allotments made by this federal agency.

To obtain controlled products and materials for new construction work, replacements and extensions other than used in regular maintenance, repairs and operation, special requests for allotments were required to be made.

While no serious curtailment in the railway's operation was experienced due to inability to secure materials and supplies, the lifting of practically all controls as of June 30, 1953, saved much time and effort in paper work.

Activities for Civilian Defense

Activities of the railway's defense program, under the direction of H. E. Cooley, Assistant Superintendent of Transportation, and W. D. Ratto, Assistant Director of Safety, included:

A "Bell and Lights" attack warning system installed in the Railway's telephone room in October, 1952.

A state-wide test of the warning system was conducted on October 20, 1952. Each morning since October 20, 1952, at 9:30 a.m., a mechanical check of the signals is conducted. In addition, the switchboard handled four test alerts as follows:

Friday, Nov. 14, 1952	at 12:33 a.m.	Friday, May 15, 1953	at 11:38 a.m.
Friday, May 1, 1953	at 10:35 a.m.	Friday, June 4, 1953	at 11:34 a.m.

Standby gasoline generators have been installed at railway headquarters, 949 Presidio Avenue, and at the station on Twin Peaks, to operate the Central Control Radio Station in case of power failure.

The Disaster Council has delivered to various coach yards sufficient plywood stretcher boards and paper blankets to equip 420 motor coaches into super ambulances to be used for evacuation in case of disaster.

Disaster Equipment on Hand

In case of disaster, the Municipal Railway will have the following equipment that may be used to evacuate:

Nerve center of the Railway is the Central Control Room where radio contact is maintained, 24 hours a day, with trouble-shooting Inspectors in special cars covering the entire city.

Equipped with modern, heavy-duty, hydraulic-lift platform trucks, the Line Department is concerned primarily with the Railway's overhead electrical system. Over 2,000 emergency calls were handled by the Department this year in connection with maintenance and repair.

Street Cars	185	Motor Coaches	467
Cable Cars	73		
Trolley Coaches	398	Total	1,123

Twenty-nine two-way radio equipped vehicles consisting of official, inspectors', wreckers, and line-department cars and trucks are available and can be in service without undue delay. The railway also has some eighty other motor vehicles of all kinds available if needed.

"Shopper's Shuttle" Proposed

The nation-wide problem of "decentralization" being experienced in all large cities in the nation, involving the shifting of business establishments to outlying areas and adversely affecting the downtown districts, is likewise being experienced in San Francisco.

Business and civic organizations have pointed out that something should be done to help the downtown area lest irreparable harm be done and the city's tax structure also undergo a major change.

As a means of coping with this problem, several proposals for a reduced Shoppers' Special 5 Cent Fare have been made.

One proposal submitted to the Public Utilities Commission has involved a 5 Cent Shoppers' Shuttle Route in the downtown area.

5c Shoppers' Special Bus Route Between 10:30 a.m. and 3:30 p.m.

This would follow a tentative route from Market and Second Streets to Post Street, to Grant Avenue, to Geary, to Stockton, to Market, to McAllister, to Hyde, to Market, to New Montgomery, to Jessie, to Second, to Market.

The proposed route is two and one-half miles long, with a twenty-two minute running time and a five minute headway. Average speed would be 6.8 miles per hour. The hours of operation would be between 10:30 a.m. and 3:30 p.m., Mondays through Saturdays.

The cost is estimated at $168.84 per day, while the revenue is anticipated to be far short of this figure.

Transportation and Schedule Departments

In keeping with a policy of maintaining close contact with actual conditions as they exist on the lines of the system, the Schedule and Traffic Department experienced a year of considerable activity as indicated by the following figures:

Traffic and passenger checks made	852
Running time checks made	78
Special traffic studies made	27
New schedules drafted and used	265
New schedules drafted for future use (semi-holiday)	17
New schedules drafted but not used	15
Total new schedules drafted	297
Revisions of existing schedules	217

Passenger Service Reports, letters, and suggestions from patrons referred to the department were given individual attention, and adjustments made as warranted.

Service Interruptions—Switchbacks

Any considerable delay for any reason tends to cause "switchbacks" where cars and coaches must be turned short of the intended terminal. They indicate interruptions to service and possible inconvenience to patrons. Those due to fires, blockades, accidents, etc., are practically unavoidable. A definite effort has been made, however, to provide realistic running time based on actual operating conditions at the various times of the day and night, including a reasonable amount of recovery time at terminals to absorb minor delays where practicable. This has resulted in a decrease in the total number of switchbacks required.

Express and Limited Stop Services Operated

As a means of providing faster service, the railway has instituted motor coach express and limited stop services combined with local service on certain lines, thus cutting down considerably the normal running time afforded by local service.

On June 30, 1953, express service was rendered on five lines:

No. 2	(Clement)	No. 16	(Noriega)
No. 14	(Mission)	No. 26	(Daly City)
No. 15-42	(Navy Shipyard)		

Also on June 30, 1952, limited stop service was rendered on seven lines:

No. 2	(Clement)	No. 71	(Haight-Noriega)
No. 14	(Mission)	No. 72	(Haight-Sunset)
No. 15	(Third)	No. 31	(Balboa)
No. 66	(Masonic-Quintara)		

Express service provides through service for a considerable distance on the lines operated while limited stop service stops at all transfer points.

This express and limited stop service has proved very successful and will be expanded on the system as the management determines the need and as facilities are available.

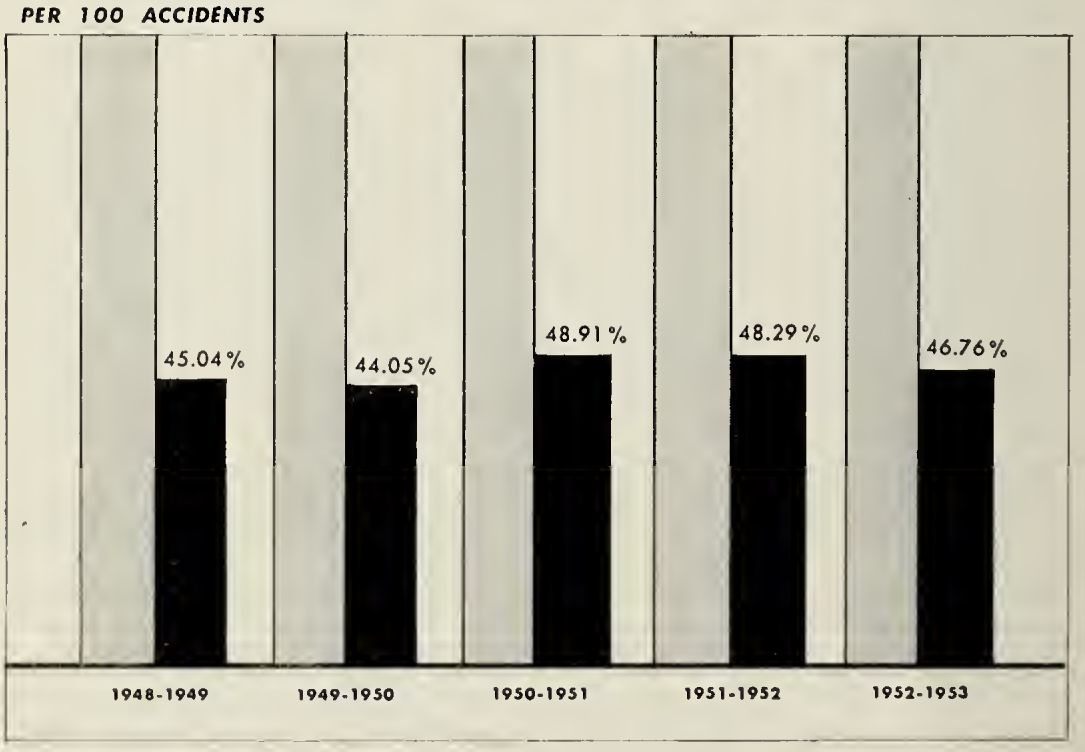
Switchbacks	*Total for Fiscal Year*	*Average Per Day*
1950-1951	47,034	129
1951-1952	32,348	88
1952-1953	26,127	72

This indicates a great improvement and shows that a better quality of service is being given to the public.

Eight in Ten Court Order

Following the issuing of the "Eight in Ten" court order in March, 1952, all runs on the system were revised to meet the court's interpretation of section 125 of the charter, and the revised runs were made effective in May and June of 1952.

NUMBER OF CLAIMS PRESENTED



These revisions required a complete change in the method of making runs and involved operation of mid-day trips that would not be considered warranted on a basis of passenger traffic.

During the past fiscal year, 1952-1953, it was necessary to review and revise the emergency schedules made in May and June of 1952 and to make adjustments as warranted.

The court's interpretation of March, 1952, required that all runs (working shifts) for operators shall provide eight hours of work within a spread of ten hours. This applies to men working transit equipment only and does not include men working collects and reports.

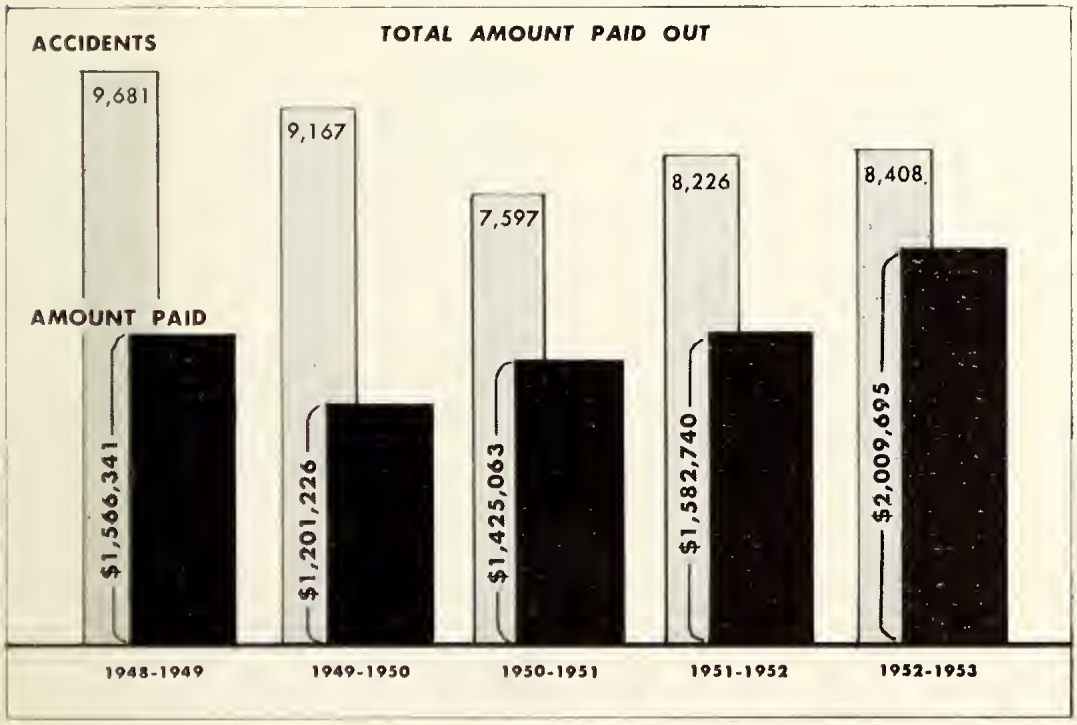
Over-Ruling of March, 1952, Court Order

Under a decision rendered by the State District Court of Appeal on April 30, 1953, the above interpretation was overruled, the order stating that it was not mandatory to guarantee eight hours of work with pay within a ten hour spread to each operator of equipment.

However, this latest court order seems to imply that other benefits to the operator are involved in connection with the annual fixing of operators' wages each year.

Therefore on June 10, 1953, the City Attorney filed a petition with the State Supreme Court for a full rehearing for the purpose of clarifying the still questionable points. This appeal has not been acted upon to date of this report.

TOTAL NUMBER OF OPERATING ACCIDENTS



Other Schedule Department Activities

In addition to items covered above, the Schedule and Traffic Department made a considerable number of surveys for new routes and extensions as well as relocating portions of existing lines. As a result of one of these studies, for example, a change in routing was made on the No. 40 line between Second and Market streets and the Southern Pacific Depot that was more direct and that required less time. This improvement met with favorable comment from patrons and an increase in the number using the service.

Bureau of Personnel and Safety

The operational accident rate, which includes traffic, passenger, and certain miscellaneous types of accidents, was 23.94 per 100,000 miles of operation for the fiscal year, a decrease from the 24.69 rate of the previous year. Employee accidents, broken windows, and non-operational occurrences are not included in the accident rate.

Among the factors faced by the railway in its constant effort to reduce the number of accident occurrences are: operating personnel turnover rate, still considered high although showing a decrease from 36 per cent for the previous fiscal year to 24 per cent for 1952-1953; increased exposure of equipment because of longer operating schedules made necessary by court decision; increasing density of private vehicle traffic, also causing greater exposure; increased cable car operation with the current fiscal year reflecting a full twelve months' operation of the former California Cable Railroad lines as against the less than six months' operation shown in the previous year's report.

Despite the foregoing, accident occurrences of the railway have been kept comparable with other organizations' experience in the industry by sound, proven policies that the Bureau of Personnel and Safety has placed in effect:

Periodic Safety Meetings

Industrial Safety meetings are held periodically for supervisory personnel of the various shops and departments. Accident hazards are discussed, and suggestions are solicited. Safety films are shown depicting on-the-job safety; invited guest speakers lecture on safety; and booklets and pamphlets are distributed. Regular inspections of shops, offices, buildings, grounds, and equipment are made, resulting in recommendations for necessary changes and precautions to insure the maximum safety to both patrons and employees.

Cooperation of Other City Departments

The cooperation of the San Francisco Police Commission, City Traffic Engineer's office, and the Traffic Department of the San Francisco Police Department, in the installation of safety zones, coach zones, and recommendations for No Parking and Tow Away streets, has expedited the movement of the railway's vehicles, as well as traffic in general throughout our city.

Safe Driver Program

The Safe Driver Award Program of the National Safety Council, which has been in effect on the railway since 1919, has tended to stimulate safer operating practices among transit personnel. From an operational accident rate of

30.14 per 100,000 miles for the fiscal year 1949-1950, the rate has dropped to 23.94 for the fiscal year 1952-1953. During forty-three months of the Safe Driver Award Program through May, 1953, a total of 1,738 one year, 625 two year, and 269 three year awards have been made to 1,416 of the operating personnel.

For the past fiscal year, a total of four platform employees won the Northern California Driver of the Month award, while six won a Distinguished Driving award in the same contest. The operators compete with drivers of commercial trucking firms in the northern part of the state as well as other transit properties.

Department of Accident Investigation

The Department of Accident Investigation and the Bureau of Personnel and Safety have continued the campaign of personal contact with and safety education of employees. The number of accidents reported for the fiscal year 1952-1953 totaled 8,408—an increase of 182 over the 8,226 accidents reported during the fiscal year 1951-1952.

This is a small increase considering the fact that the accident exposure was greater during the past year by reason of the increase of 1,243,292 miles and 137,906 hours operated over the previous year.

Accident claims filed in 1952-1953 decreased from 3,495 to 3,420, a decrease of seventy-five.

Compared with five years ago, accident occurrences for the fiscal year 1952-1953 show a decrease of 3,094 from the fiscal year 1947-1948, or a decrease of 26.90 per cent. Comparing the same fiscal years, claims filed showed an increase of thirty-four or one per cent. This is attributed to current greater claims-mindedness of the public.

One of the necessary and welcome chores of the Railway's Central Receiving Room each day is to count the coins dropped in the fareboxes of more than 1,000 vehicles. About $70,000 is collected in an average weekday which includes 26,000 halves, 51,000 quarters, 134,000 dimes, 124,000 nickels and 48,000 pennies.

Fiscal Year 1952-1953

What We Received:

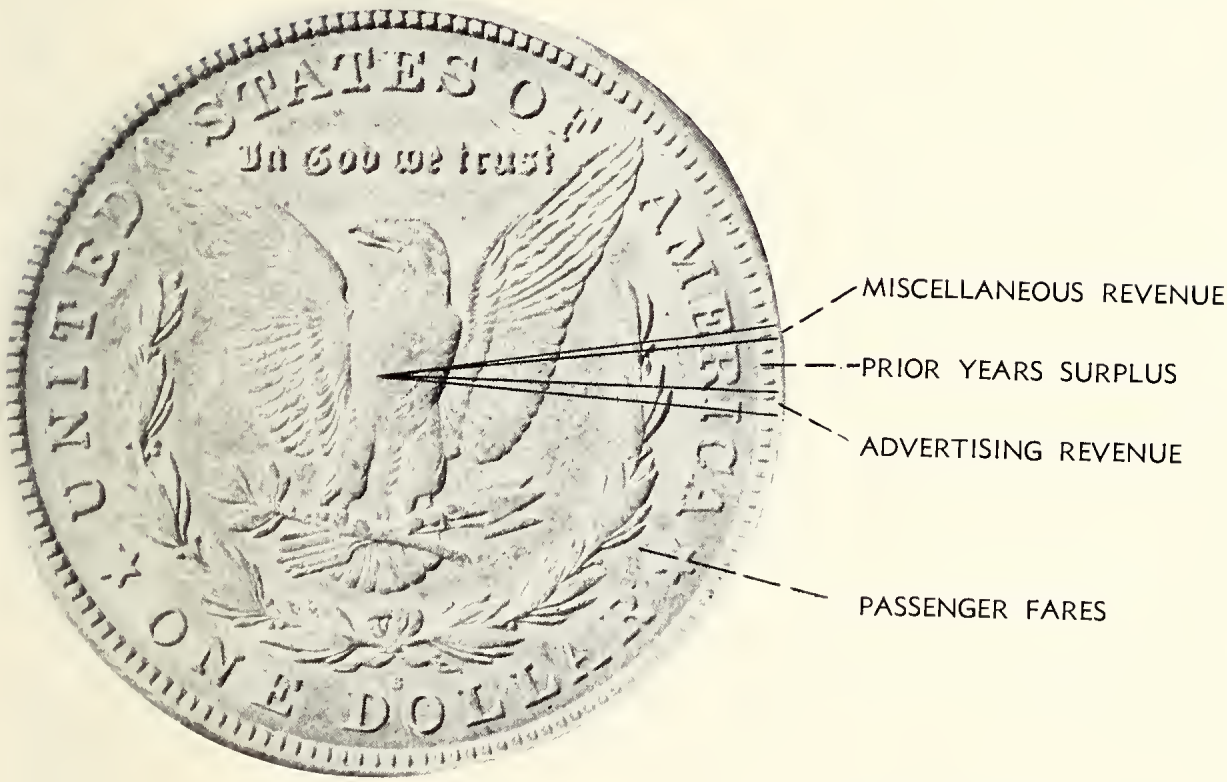
Passenger Fares	$23,328,179
Advertising Revenue	121,382
Miscellaneous Revenue	70,337
TOTAL REVENUE	$23,519,898
Prior Year's Surplus	546,636
TOTAL RECEIPTS	$24,066,534

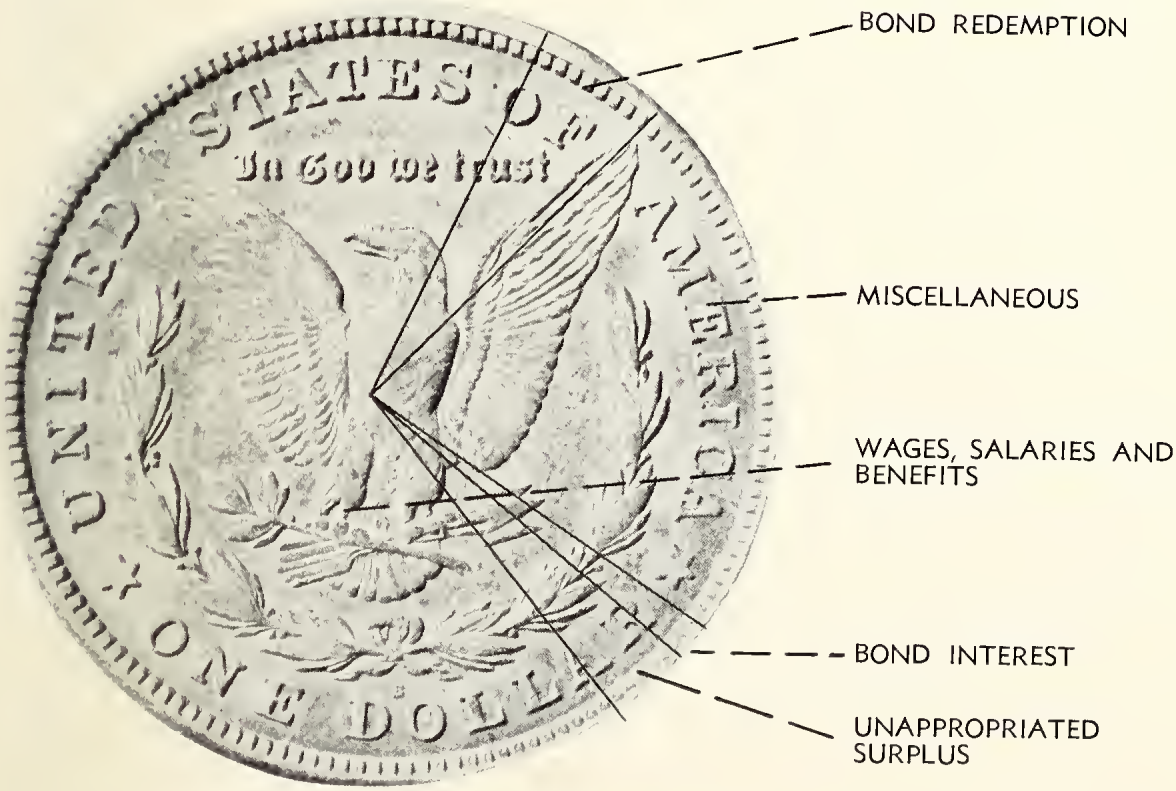
Where Money Went:

Salaries, Wages, including Retirement, Sickness and Industrial Injury Compensation Benefits	$16,242,974
*Miscellaneous	5,094,301
Taxes	-o-
Bond Interest	317,643
Bond Redemption	1,526,000
TOTAL EXPENDITURES	$23,180,918
Unappropriated Revenues Transferred to Surplus	885,616
	$24,066,534

*Materials and Supplies	$1,992,628
Passenger and Damage Claims	1,524,852
Heat, Light and Power	764,194
Tire Rental	387,499
Other	425,128
	$5,094,301

GROSS RECEIPTS





EXPENDITURES

CALMAR PRINTING

Annual Report

PUBLIC UTILITIES COMMISSION